HORSE-BREEDING

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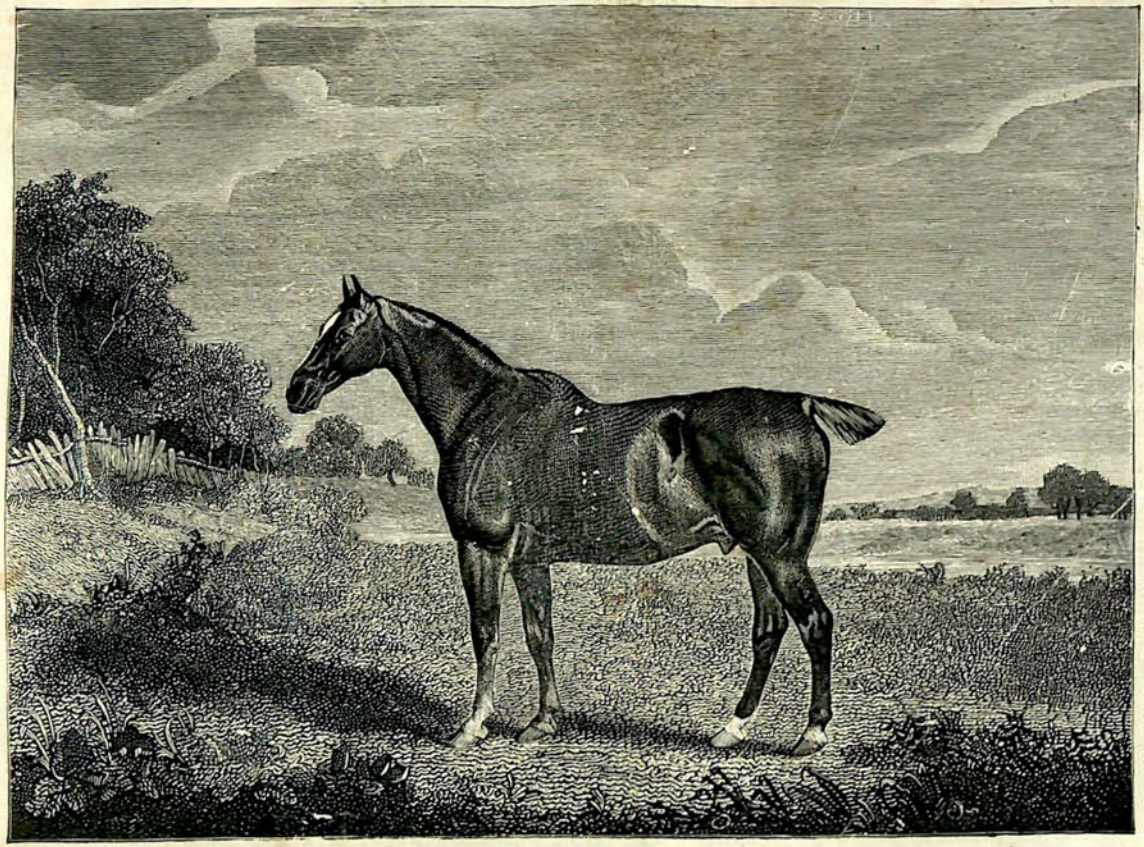
HORSE-BREEDING
IN
ENGLAND AND INDIA
AND
ARMY HORSES ABROAD



Painted by J. E. FERNELEY, 1825

Hunter Sire—COGNAC

HORSE-BREEDING
IN
ENGLAND AND INDIA
AND
ARMY HORSES ABROAD

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BY

SIR WALTER GILBEY, BART.

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CONTENTS

	PAGE
HORSE-BREEDING IN 1884	1
342,222 HORSES IMPORTED IN TEN YEARS	1
£16,240,700 PAID AWAY IN TEN YEARS	2
EXPORTS OF HORSES	3
DISAPPOINTING RESULTS OF OUR POLICY	3
HORSES BRED FOR SPORT ONLY	5
PURCHASE OF ENGLISH MARES BY FOREIGNERS	6
HORSES WANTED FOR THE ARMY	7
SIZEABLE HORSES WANTED	9
PRIVATE ENTERPRISE IN ENGLAND	10
BREEDING WITHOUT PREJUDICE	10
LANDLORDS WOULD DO WELL TO GIVE A CHOICE OF SIRES	11
SIXTY YEARS OF HORSE-BREEDING HAS ENDED IN FAILURE	11
THE RACE-HORSE OF THE EIGHTEENTH CENTURY ..	12
RACE-HORSES EARLY IN THE NINETEENTH CENTURY ..	14
THE INTRODUCTION OF SHORT RACES	16
THE ROADSTER OF A CENTURY AGO	17
WHAT FOREIGN NATIONS ARE DOING	18
HORSE-BREEDING IN FRANCE	20
HORSE-BREEDING IN GERMANY	26
HORSE-BREEDING IN HUNGARY	30
HORSE-BREEDING IN AUSTRIA	34
HORSE-BREEDING IN ITALY	37
HORSE-BREEDING IN RUSSIA	38
HORSE-BREEDING IN TURKEY	43
HORSE-BREEDING IN INDIA:	
Opinions of the Late Veterinary Colonel Hallen—	
First endeavours to improve Native Breeds. Army Remounts and Horse-Breeding. Native Mares. Difficulties in the way of improvement. Purchase of stallions. English Thoroughbreds. Objections to Thoroughbred Stallions. Thoroughbreds from Australia. Hackney Stallions. Results of using Thoroughbred, Hackney and Arab Stallions. Thoroughbred and Arab Sires in Bombay Presidency. Relative merits of young stock by various stallions. Commission of Inquiry 1900. Errors in working the Horse-Breeding Scheme. Demand for horses for sport in India. Stallions overworked. Small size of the Arab. Climate and size of the horse	46-54
Opinions of Major-General Sir John Watson—	
Work of Old Bengal Studs. Shortcomings of existing system. Indiscriminate breeding. Character of mares ignored. Hopelessness of evolving an Anglo-Indian horse	54-56

ILLUSTRATIONS

	PAGE
A Cover Hack, the property of the Ninth Duke of Hamilton	*Frontispiece*
Hunter Sire—Cognac	6
Shark	11
Hambletonian	13
Orville	15
Mango	16
King George IV's Hackney—Monitor	18
Anglo-Norman Stallion—Radziwill	23
Oldenbourg Mares	29

PREFACE

For fifty years endeavours have been made to establish a better system of horse-breeding in England; but nevertheless we are farther than ever from being independent of foreign countries; and horses for military purposes are those which we most lack.

The brief account of the Continental stud establishments given in the following pages shows how fully foreign peoples realise the importance of encouraging horse-breeding, and the value they set on English breeding-stock.

Without wishing to see the Continental system of horse-breeding by Government adopted in England, we in this country may perhaps profitably study foreign methods, to the advantage of our private studs.

Elsenham Hall, Essex
2nd September, 1901

HORSE-BREEDING IN ENGLAND AND INDIA

AND

ARMY HORSES ABROAD

Horse-Breeding in 1884.

It is now seventeen years since I drew attention* to the neglect displayed in England in the breeding of Horses. Stress was then laid upon our increasing dependence on foreign countries for supplies of horses of the generally useful stamp; and upon the mistaken policy of selling to Continental buyers the mares we might with profit to ourselves retain for breeding purposes at home, if such mares are properly mated.

The necessity for adopting measures to alter the state of affairs then existing was generally acknowledged; but no progress has been made in the desired direction, while the nation's wants in horseflesh have steadily increased.

342,222 Horses Imported in Ten Years.

Horse-breeders in the United Kingdom have been, and still are, unable to supply the national requirements, and, as a consequence, we are compelled to import foreign horses.

* *A Paper read in 1884 at the Farmers' Club. With Discussion thereon by the Duke of Westminster, Earl Carrington, Sir Nigel Kingscote, Mr. Edmund Tattersall, and others.*

Year by year we obtain horses from abroad in increasing numbers, paying away each year larger sums into the pockets of foreigners; in the last twenty years our imports have grown over fivefold, as the following figures from the Government Returns show:—

Ten Years, 1881—1890		Ten Years, 1891—1900	
1881	9,950	1891	21,715
1882	8,827	1892	21,026
1883	9,627	1893	13,719
1884	12,928	1894	22,866
1885	13,023	1895	34,092
1886	11,027	1896	40,677
1887	11,649	1897	49,519
1888	11,504	1898	42,921
1889	13,859	1899	43,900
1890	19,404	1900	51,787
	121,798 Horses		342,222 Horses

The disturbing feature about these figures is their increasingly rapid growth, more especially if they are regarded from the military point of view.

In peace time the Remount Department had to send officers to Canada and America to purchase horses for military purposes in England. In the year 1886 the late General Ravenhill, who was then at the head of the Department, visited Canada with a staff of officers for this purpose.

With regard to the figures for the year 1900, which show such a marked increase, it may be said that this unusual advance was due to the demand for horses in South Africa. Large numbers were required in England to replace omnibus and van horses which had been taken by the War Office under the subsidy system, and many were imported by dealers with a view of selling them to the Remount buyers.

£16,240,700 Paid Away in Ten Years.

Assuming that the average value of these foreign horses is £35 per head, we have, during the last ten years, paid away to foreign breeders the sum of £16,240,700, or nearly sixteen millions and a quarter.

It is true that the increase during recent years is accounted for in large degree by the number of small and cheap ponies, and of "misfits" used for tramcar, omnibus, and similar work. The ponies are worth little—£6 or £8 per head would fairly represent their market value—and the omnibus horses are not animals of the stamp at whose production it would pay us to aim, being worth from £25 to £35 per head. But, at the same time, it cannot be disputed that our annual imports include very many thousands of horses which would pay English breeders handsomely to produce for themselves.

Exports of Horses.

The Government Returns of horses which leave England for all countries abroad show that during the last four years our exports are as follows:—

1897	...	34,471
1898	...	36,412
1899	...	33,701
1900	...	30,545

Disappointing Results of Our Policy.

Is our position to-day any better than it was in the year 1884? On the contrary, it has gone from bad to worse, and we are now more dependent than ever upon foreign countries for horses.

Royal Commissions have taken volumes of evidence on the subject. Most important among these Commissions was that generally known as Lord Rosebery's Committee, which was appointed in 1873 "To Enquire into the Condition of the Country with regard to Horses, and its Capabilities of Supplying any Present or Future Demands for them." The Committee held 16 sittings and examined numerous witnesses concerning the breeding of horses for purposes other than sport.

The evidence showed that there appeared to be no scarcity of Thoroughbreds, but that there was a general decrease in

the number of horses of other breeds—viz., in agricultura horses and Cleveland Bays, while the old-fashioned Hackney or Roadster had become extremely rare.

It is strange to notice the bias in the minds of the Committee; no witness was encouraged to continue his evidence unless he spoke in favour of breeding from Thoroughbred stallions.

The Committee reported that the deficiency in supplies of useful horses was attributable to (1) the export of mares; (2) the increased profits accruing to sheep and cattle-rearing; and (3) the increased demand for horses consequent on increase of population and affluence, which produced relative scarcity.

The Committee made various recommendations; the only one adopted by the House of Commons, however, was that which advised the abolition of taxes on horses, which, it was held, in some measure deterred farmers from breeding.

The weak point in the work accomplished by this Commission was that the members betrayed no inclination to hear evidence concerning horses with substance; this very important department of the industry was apparently considered outside the scope of the enquiry, as was the subject of breeding such horses as are needed for artillery.

This attitude on the part of the Committee was the more singular, inasmuch as the little evidence that was given indicated the high and increasing value set upon harness horse-breeding stock by the Governments of France, Italy, Germany, Austria and other Continental countries, which for many years have devoted great attention and very large sums of money to the solution of the very question Lord Rosebery's Committee was appointed to investigate—namely, the supply of horses of the useful stamp.

Since this Committee sat much has been done by private enterprise to repair our deficiencies; no fewer than twelve Societies have been established and have promoted Shows to encourage breeding. At a rough estimate, the amount of money distributed in prizes at Shows held throughout England may be put at between £25,000 and £35,000 per annum.

In addition to these endeavours to awaken the country and breeders to our needs, the sum of £5,000 since the year 1887 has annually been granted by Government to encourage horse-breeding. The greater part of this money for more than a century had been given by the reigning sovereign in the shape of Royal Plates.

In 1887 the Royal Commission on Horse-Breeding was appointed, and one of the first recommendations of this body was that the sum of £3,500 which had been given by Queen Victoria in prizes for races should be diverted to the use to which it is now applied—namely, in giving premiums to thoroughbred stallions.

Books, pamphlets and newspaper articles beyond count have been written to demonstrate our needs and urge effort to improve, but without appreciable result.

Horses Bred for Sport Only.

Since the end of the coaching era—say since 1850—we have been breeding, as at the present day, almost exclusively for pleasure, and not for business, and this is just where our weakness lies.

The only animals for business purposes which receive the meed of attention their importance deserves are the heavy draught-horses—the Shire, Suffolk and Clydesdale.

We are far ahead of any other nation as breeders of race-horses, hunters and polo-ponies—horses used in sport—we spare neither money nor pains to breed the best, but in aiming at production of these we either hit the mark or miss it altogether.

We prefer a Thoroughbred sire, not because he has bone, substance and soundness, but because he *is* a Thoroughbred. The owner of a mare does not inquire concerning the make and shape of the stallion; he asks, "How is he bred?" and a fashionable pedigree is the strongest—nay, the only—recommendation he will accept.

This was not always the case; between the years 1800 and 1850, broadly speaking, Hunter sires were used to beget Hunter stock. It is true that breeders of Hunters did not confine themselves exclusively to the use of such sires, for the increased speed of hounds obliged them to produce faster horses; but such animals as Cognac, whose portrait is here given, were very largely used, to the great benefit of the Hunter. Cognac belonged, in the words of a writer in the *Sporting Magazine* of the year 1836, "to a race of Hunters nearly extinct, and justly celebrated for their high courage, honesty and stoutness." Because the Thoroughbred sire of a former generation was successfully used to beget Hunters, we have taken for granted that his greatly altered modern descendant is equally suitable for the purpose; and herein to a great extent lies the reason of our failure.

There must always be a large proportion of disappointments in stud work; the number of failures or misfits will always exceed the good ones, and the misfit got by a Thoroughbred from, say, a Hunter-mare already full of Thoroughbred blood is only too often a misfit in the fullest sense of the word—a disappointment to the breeder, too light for army work, and scarcely fit for useful purposes—in homely language it is a "weed."

Purchase of English Mares by Foreigners.

In France, Germany, Hungary and other foreign countries breeders work on very different lines. They breed for business, not for pleasure; their aim is to produce the highest stamp of useful horse. With this definite object they have for sixty years and more been buying English mares, free from bias in favour of one strain or another. Geldings the foreign breeders scarcely ever purchase from us. The larger number of mares bought by them are those which have been accidentally blemished; but in all cases the shape and not the pedigree of the mare guides the purchaser. They also buy sound young mares for work, and with the view of breeding from them afterwards.

In addition to their annual purchases of many thousand English mares, foreign breeders have, since about 1830, been our best customers for Hackney stallions. Foreign stud masters in the great horse-rearing districts can now show us distinct and well-marked breeds of useful horses which they have gradually produced by judiciously mating the mares they have bought from us. Had those mares been retained in England it is not likely that they would have benefited the nation; they would, in all probability, have been put to Thoroughbred stallions, with the results described by Lord Cathcart.*

The point on which particular stress must be laid is that, owing to the method of breeding on the Continent, the foreigners' misfits are unlike ours. The foreigner may—he necessarily often does—fail to produce a youngster that will sell in the most remunerative market, *i.e.*, as a carriage-horse; but the misfit is not a weed, it is useful for general purposes.

Horses Wanted for the Army.

The War Office authorities have recently been bombarded with schemes and suggestions—good, bad, and impossible—for increasing the home-bred supply of remounts.

It is certain that there will be an enormous demand in the future for horses both large and small for military purposes.

In the year 1900 a large increase was made in one arm which involves a large increase in the number of horses which will be needed. Fifty-four new batteries of Artillery have been raised; on a peace footing each of these requires 58 horses, or a total of 3,132. The war establishment of a battery of Royal Field Artillery is 131 horses; 7,074 additional horses would therefore be required to equip the new batteries for active service.

* *Half-Bred Horses for Field and Road: Their Breeding and Management*," by Earl Cathcart, in the *Journal* of the Royal Agricultural Society of England, 1883.

Among the many subjects which are sure to occupy an important place in the questions of Army Reform, the supply of suitable horses for military purposes must engage serious attention. It may be suggested that Britain's position as a colonising nation, while it casts upon her larger responsibilities of preparedness for war, lends her larger opportunities of meeting those responsibilities. It would be impossible in these islands to find ground for breeding-studs on the scale that would enable us to meet a demand for all the horses we might require for warfare on any extensive scale.

If I may venture an opinion, our policy should be to encourage in our Colonies—Canada, Australia, and South Africa, more especially, as possessing soil and climate suitable for the industry—the breeding of horses of the useful type required for military service. There is space to conduct these operations on a large scale in the Colonies, while the mission of the mother country might well be to continue, as at present, breeding the best of every strain as a source of supply to Colonial breeders who may seek to improve their local stock.

Before any great change is made in the existing method of obtaining Remounts, the Government might profitably send to inspect and report on the great studs of France, Germany, Hungary, Russia and other countries.

Such inspections may have been made officially, but the Reports have not been made accessible to the breeders of this country. It goes without saying that the choice of agents to make such inspections and reports must be a matter of great difficulty. The agent must be a man possessed of practical experience in horse-breeding, and not in breeding only one class of horse. The man who has devoted himself exclusively to the production of one class of horse, whether the race-horse or the hunter, cannot rid himself of the prejudices he has necessarily formed in the course of his experience as a breeder of race-horses or hunters—he cannot put aside his bias in favour of a horse suitable for sport. Few breeders devote themselves to the production of several classes of horse; and the successful men among these few are naturally disinclined to leave their

business for a prolonged tour through the horse-breeding districts of Europe.

Sizeable Horses Wanted.

I stated, in my address seventeen years ago, that English horses suitable for match pairs—square made, sizeable and having courage and action—could then be scarcely obtained; and the statement is equally true to-day. I also stated that it was only necessary to visit the yards of our metropolitan and country dealers to discover how difficult and costly a matter it was then to find a London brougham-horse or a match pair from 15.3 to 16.2 hands in height. A similar mission might be undertaken to-day with the certainty of encountering precisely the same difficulty.

Hundreds of pairs of carriage and coach horses have been sold every year in London at from £200 to £500 a pair, the purchasers being quite unaware of their foreign origin. At recent sales brown and bay, upstanding coach-horses from coaches running during the summer out of London have sold at from 100 to 200 guineas; a pair purchased by a friend cost 350 guineas. There can be no doubt whatever where these animals were bred; if anyone took the trouble to trace their pedigree it would be found that they came either from the Oldenbourg province of Germany or from the horse-breeding districts of Normandy in France; there can be no mistaking the breeds.

This is an anomaly, but one for which it would be unjust to blame the dealers, for English-bred harness-horses of the class required have not been bred in any quantity in this country for more than fifty years.

The enterprising English dealers took measures to meet their customers' requirements by maintaining on the Continent agents whose business has been to purchase the most "English-looking" animals they can find; and it may be asserted without fear of contradiction that the horses so purchased are bred from English stock.

Private Enterprise in England.

It is not, I think, desirable that the British Government should embark upon costly horse-breeding operations in emulation of foreign powers. Private enterprise in England has succeeded in producing domestic animals of all kinds so far superior to those bred in other countries that English stock, whether Horses, Cattle, Sheep or Swine, are purchased at "fancy prices" to improve their kind in every civilised part of the world, and breeding industries would not benefit were the independence of the individual undermined by Government help which relieved him from the necessity to exercise his own energies and judgment.

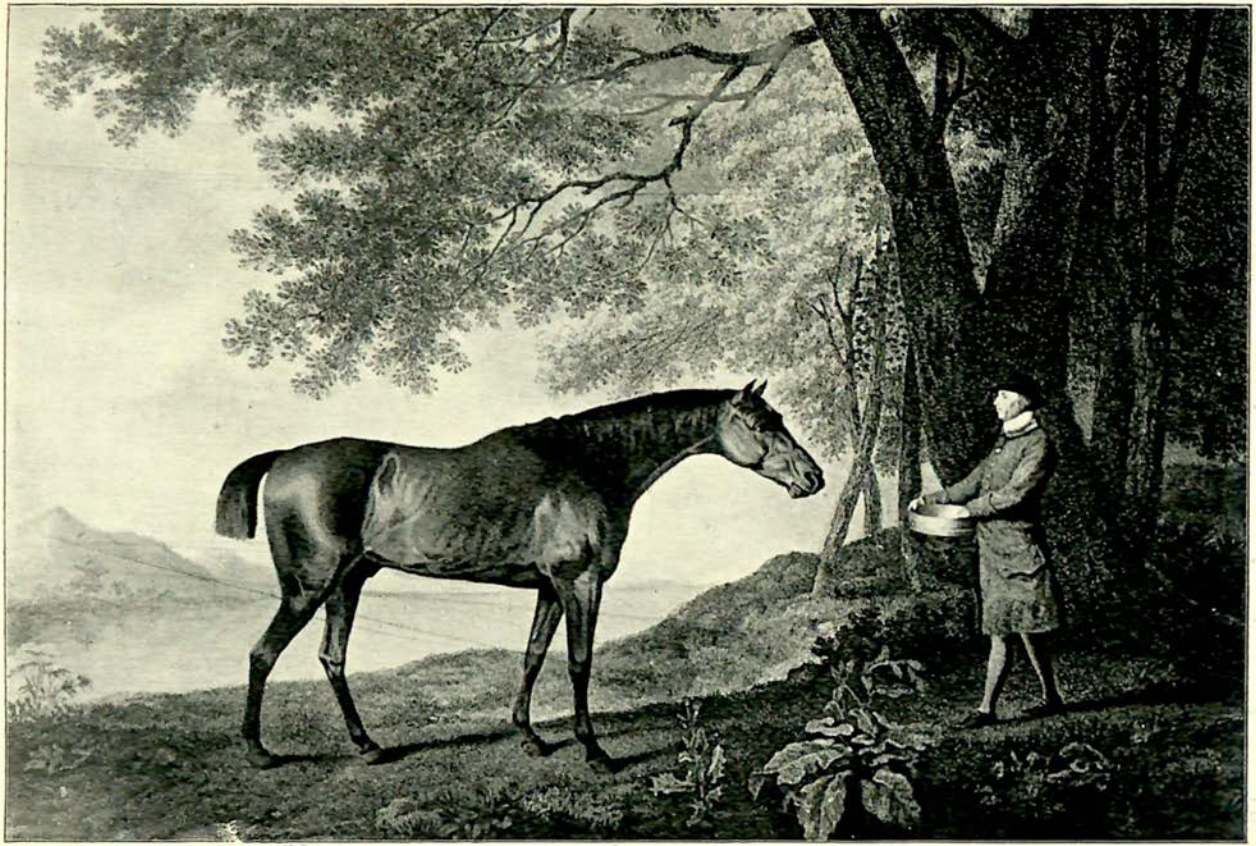
It must be said, however, that private enterprise is not always wisely directed. The practice among large landed proprietors and others of keeping stallions to serve the mares of their tenants and others at small fees is increasing.

It is an ungrateful task to take exception to a practice which proves anxiety both to promote the welfare of the tenants and to encourage the breeding of good horses; but it must be pointed out that to keep a Thoroughbred stallion to serve any or all the mares that may be brought to him, tends directly to defeat the good objects in view.

Breeding without Prejudice.

It will be seen that none of the Continental Governments which devote attention to horse-breeding pin their faith to one single breed and depend upon that to improve all breeds. The ground plan of the system in each country is to raise the standard of merit of each breed (1) by providing the best procurable stallions of that breed for public service at low fees, and (2) by affording the owners of mares a certain range of choice in stallions, that defects may be eliminated or improvement obtained by judicious crossing.

Where the system of affording owners of mares opportunity for choosing among various stallions all the best of



Painted by GEORGE STUBBS, R.A.

Thoroughbred Horse—SHARK: foaled 1771

their kind has been long in vogue we see the results in the shape of distinct strains which breed true to type; for example, in Hungary they have established a breed of saddle-horses; in France a distinct strain of carriage horses—the Anglo-Norman—has been established on so true and constant a basis that it not only breeds true to type, but can be depended on to assert itself when crossed with other breeds and stamp its character upon the progeny.

Landlords would do well to give Choice of Stallions.

Those who desire to assist their tenants can only accomplish their end by keeping stallions of several breeds. Let the owner of a mare choose for himself whether he shall put her to a Thoroughbred, Hunter-sire, Hackney, Arab, or to a stallion of one of our Draught breeds.

We should then have in operation a system which combines the invaluable advantage of choice so wisely provided by foreign stud-masters with that freedom to exercise discretion and judgment from which none would wish to see our farmers relieved.

If one landowner be unable or unwilling to maintain such a stud representative of several breeds, there would be surely no great difficulty in two or three landlords combining to maintain a joint stud at one farm; for the essence of the plan is to make all the stallions equally accessible.

In this connection I would add that I am no advocate for horse-breeding by public companies. The business is not one that lends itself to industrial enterprise in that form.

Sixty Years of Horse-Breeding has Ended in Failure.

The figures from the Returns of Horse Imports show that we have not succeeded in breeding horses for general purposes. If evidence be required to explain how we have failed to supply the nation's wants, it is only necessary to refer to the

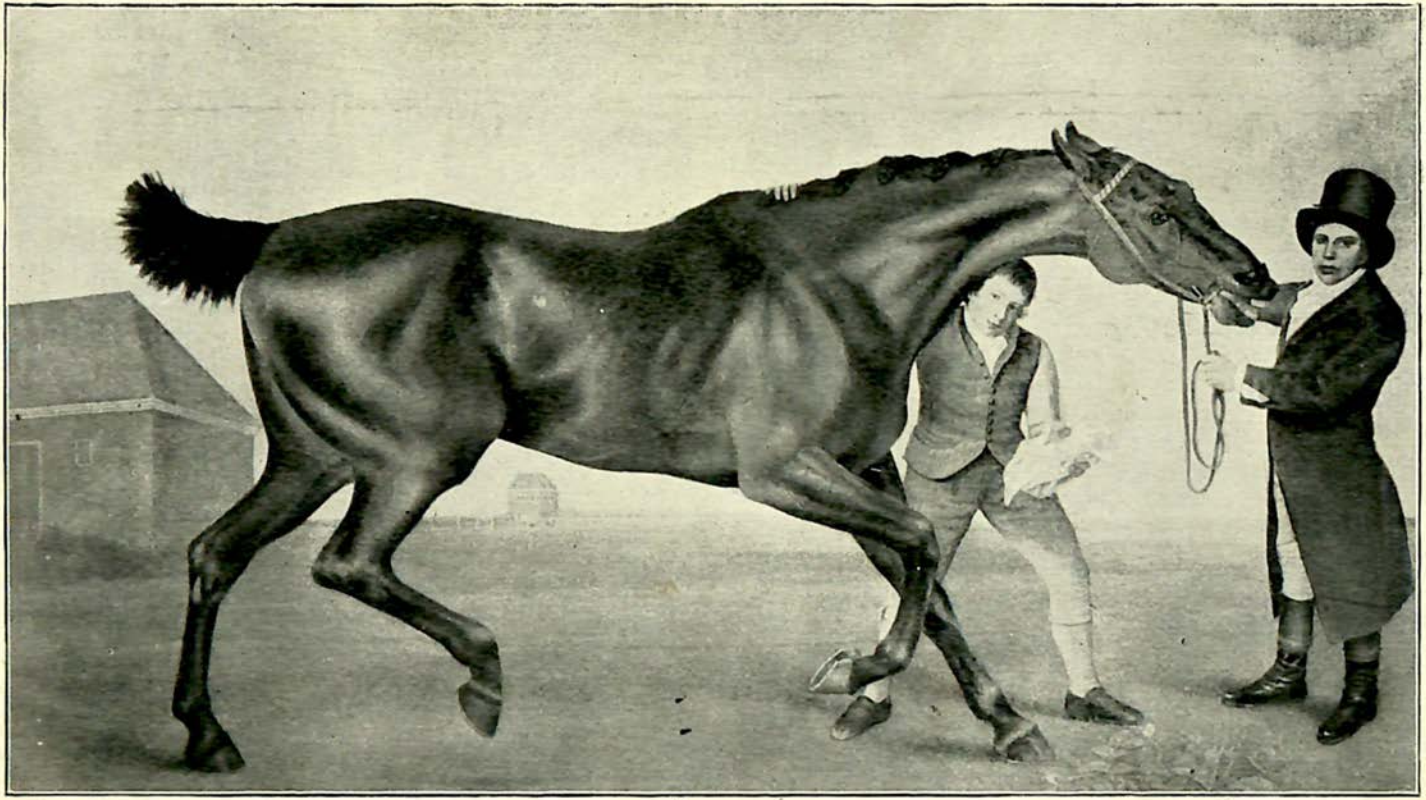
Reports of the various Commissions which have been appointed to inquire into the subject of horse-breeding, and more particularly to the Report of Lord Cathcart already referred to.

Lord Cathcart makes the cogent remark that "in addition and supplementary to blood we must have substance from somewhere." The truth is that we have been working as though blood necessarily gives substance. This was the case a hundred years ago and less, but is true no longer, and we must divest ourselves of the idea so resolutely held that the thoroughbred is the only strain which can improve our horses. Like foreign breeders, we must seek bone and substance where those qualities exist and not where they only used to exist.

The Race-Horse of the Eighteenth Century.

The modern race-horse, superior as he is in point of speed to his ancestors of a hundred and a hundred and fifty years ago, is wanting in those qualities which would fit him as the sire of useful horses. Records to show the conditions of distance and weight in races at Newmarket before the year 1700 are wanting; but there is abundant evidence to show us what race-horses were required to do during the eighteenth century, when the Turf became an organised institution under the fostering care of Queen Anne (1702-1714) and her successors on the throne.

During the eighteenth century and in the first quarter of the nineteenth the race-horse was an animal combining speed with stoutness. The early Thoroughbred averaged little more than 14 hands 2 inches in height, in this respect resembling the three famous sires from which our race-horses are descended. The Byerly Turk, imported in 1689; the Darley Arabian, imported in 1706; and the Godolphin Arabian, imported in 1730, were all under 14.2 hands in height. These were the horses—mere ponies as compared with the Thoroughbred of to day—which performed the tasks of which we read in the old



Painted by GEORGE STUBBS, R.A.

Thoroughbred Horse—**HAMBLETONIAN**: foaled 1792

Turf records between 1718 and 1764. In October, 1718, at Newmarket, twenty-three matches were made, and in twenty-two the distance was four miles. Four miles was the usual length of a race, but races of six miles were quite common, and a match of the old style was run in three heats; the weights were prescribed by law, and varied from ten to twelve stone in accordance with age.

Six-mile races went out of vogue before the end of the eighteenth century, but the four-mile races in heats were continued during the earlier years of the nineteenth, being maintained by the Royal Plates.

In our endeavour to breed for greater speed we have produced a bigger and longer striding animal, which is much higher than his ancestors. Admiral Rous, writing in the year 1860, said that the English race-horse had increased an inch in height in every twenty-five years since 1700.

Such horses as Shark and Hambletonian, whose portraits are here given, had bone and substance. The work they were called upon to perform required the highest qualities of the horse—stamina, staying-power and ability to carry weight. Shark was foaled in 1771, and was got by Marsk from a mare by Snap; he was bred by Mr. Robert Pigott, and made his first appearance on a racecourse at the Newmarket First October Meeting of 1774. He started 29 times and won 19 times, receiving 6 forfeits and paying 4; he won more money than any horse up to his time.

Shark, like many of our celebrated Thoroughbreds, was sent to America in 1786, and in Virginia laid the foundation of the famous Snap blood.

Hambletonian was foaled in 1792; he was got by King Fergus from a mare by Highflyer, and was bred by Mr. J. Hutchinson, of Skipton, near York. In 1795 he was sold to Sir Charles Turner, and by him in the following year to Sir Henry Vane Tempest. Hambletonian was only once beaten, and on that occasion (at York August Meeting of 1797) he ran out of the course just after starting. His most famous

achievement was his victory over Mr. Cookson's Diamond on 25th March, 1799, at Newmarket.

These were animals which could be depended to run three four-mile heats in an afternoon, and could therefore be depended on to produce stock with their own valuable characteristics. The modern race-horse has undergone a great change from his progenitor of a century ago, but nevertheless the modern breeder expects him to beget stock similar to that got by the old stamp of race-horse, whose height never exceeded 15 or 15.1 hands.

It is well known that in the breeding of every species of animal the endeavour to obtain one quality, when it succeeds to producing the quality sought in greater proportion, often produces manifest deterioration in other attributes. Such has been the consequence of aiming solely at *speed*; other essentials, such as strength and endurance, have been in great measure lost.

I should be the last to deny the merits of the thoroughbred as a sire for improving our breeds of horses where quality or speed is required. Foreigners recognise his value in breeding where speed is needed, and use the thoroughbred for crossing with sizeable mares, to get strong and useful stock.

Race-Horses Early in the Nineteenth Century.

Until about 1750 Thoroughbreds were used only in breeding for the Turf; but in course of time, as hounds were bred for greater speed, faster horses were required to follow them, and there grew up the practice of crossing the Hunter mares with Thoroughbred sires.

The famous writer, Mr. Cornelius Tongue, best known as "Cecil," writing in the *Sporting Magazine* of May, 1851, says that "it was a prevailing opinion with hunting men until within the last twenty years that Thoroughbreds were not calculated for hunting." It would appear, therefore, that

during the twenty years 1831-1851 mentioned, hunting men changed their opinions with regard to Thoroughbreds, and came to consider them suitable for riding across country. Having discovered that the Hunter mare threw a good foal to the stout Thoroughbred sire, some hunting men, at least, evidently adopted the practice of riding the Thoroughbred horse as a Hunter instead of using him only as a sire to beget Hunters. In this connection we must always bear in mind that the Thoroughbred of the period referred to was still a stout horse, able to gallop a distance and carry a heavy weight.

Such a horse as Orville, whose portrait is given, may be offered as an example of the race-horse of a century ago. This horse was foaled in 1799, and was by Beningbrough out of Evelina. He was bred by Earl Fitzwilliam, and between 1801, when he ran his first race at Doncaster, and the Second October Meeting at Newmarket in 1807 he fulfilled 22 engagements, of which he won 18. He was second once, received forfeit once, and walked over once. His successes included the St. Leger of 1802, and he won races under all weights (including a King's Plate in 1805 under 12 stone) and at all distances. On 24th September, 1804, at Doncaster, he won two races, one in four-mile heats, the other in two-mile heats. He became, in 1804, the property of Prince George of Wales, and proved a most successful sire when sent to the stud. Orville is described as "a good brown."

The Colonel was a good horse of a generation later; he was bred by Mr. Wyvill, of Burton Constable, in 1825. After winning the St. Leger in 1829, he was sold to King George IV. for £4,000, and won many important races in 1830 and 1831. When the Hampton Court stud was dispersed in October, 1837, he was purchased for 1,600 guineas by Mr. Richard Tattersall.

Mango, whose portrait faces page 16, was foaled and achieved success on the Turf after The Colonel had retired to the stud. He was bred in 1834 by Mr. Thornhill, and was by Emilius out of Mustard. He won many good races for

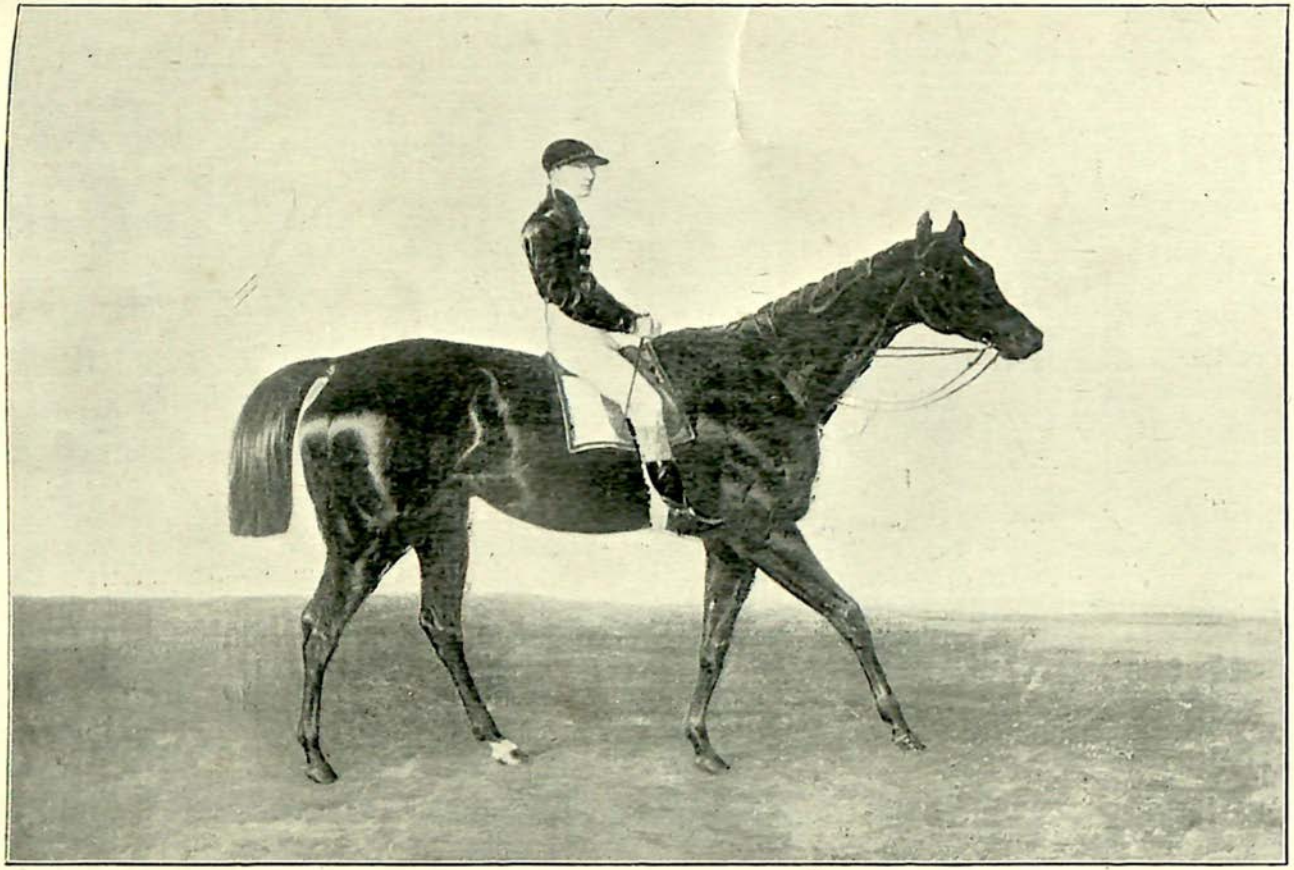
Mr. E. C. Greville, who purchased him, including the St. Leger of 1837, the Ascot Derby for 3-year-olds, and a King's Plate before he was sent to the stud in 1838. Mango was a dark bay, with particularly good legs and well-sprung ribs; he was an honest but lazy horse, and to this latter defect he owed defeat in races he should have won.

The Introduction of Short Races.

The old-fashioned race, run in four-mile heats, began to grow less popular during the last quarter of the eighteenth century, and the tendency to reduce the length of races and also the weights carried became marked in the earlier years of the nineteenth century. Elsewhere* an example of the remarkable change in our Turf system has been given, and may conveniently be repeated here. At the Newmarket Craven Meeting of 1820 there was one race of about three miles, five races of two miles or over, twenty races of about one mile, and two of under one mile At the Newmarket Craven Meeting of 1900 there were three races of about one mile and a half, six of about one mile, and eleven of five or six furlongs.

In 1832 a new schedule of weights was issued for the Royal Plates. From about this time the system of short races and light weights began to develop, and as it developed the character of the race-horse underwent a change. With every desire to produce Thoroughbreds possessing power as well as speed, breeders have found themselves unable to reproduce the former quality and successfully compete for the great prizes of the Turf. To be successful in these days the race-horse must possess the utmost speed, but he need not be able to travel at speed for a greater distance than a mile and a half at most, and if he can carry 9 stone he is considered a weight carrier.

* *Horses, Past and Present.* By Sir Walter Gilbey, Bart. Published by Vinton & Co., Ltd. 1900.



Thoroughbred Horse—MANGO: foaled 1834

Thoughtful writers foresaw the result of this change in the English Turf more than 60 years ago, when thoroughbreds of stamina and substance were far more plentiful than they are now. The author of "English Racers and Saddle-Horses in the Past and Present Centuries"* declared that at that date "There are powerful reasons for concluding that the single quality of speed possessed by the modern (1836) racer is a bad substitute for the fine old union of speed, stoutness and structural power possessed by the old racer." The racer of the thirties was lighter than his ancestors, but he was far stouter and truer made than his modern descendant. "The older race-horses," wrote this author, "were swift enough to enable the general breeder to produce excellent saddle-horses. Our roadsters were formerly admirable and plentiful, while at present a compact and powerful roadster with free action is scarcely to be bought at any price. It is obvious that the horses of our cavalry are much deteriorated, and that many of them could not go through a single campaign."

A fine example of the old-fashioned saddle-horse is shown in the frontispiece, which is reproduced from George Garrard's picture of "Archibald, ninth Duke of Hamilton and Brandon, on a cover hack." This work was engraved and published in 1797.

Another example of the old-fashioned roadster, whose disappearance the writer above quoted deplores, is Monitor, a very fast Hackney which belonged to George IV. That monarch was passionately fond of horses, and Monitor was evidently a special favourite, as his portrait was painted by James Ward, R.A., and exhibited at the Royal Academy in 1825. This horse was a son of the famous Phenomenon, who traces his descent in a direct line to the Darley Arabian. The Darley Arabian (foaled 1702) begat Flying Childers (foaled in 1715), who was the speediest race-horse of his time, and was

* *English Racers and Saddle-Horses in the Past and Present Centuries.* Published by Thomas Hookham, 15 Old Bond Street, London. 1836.

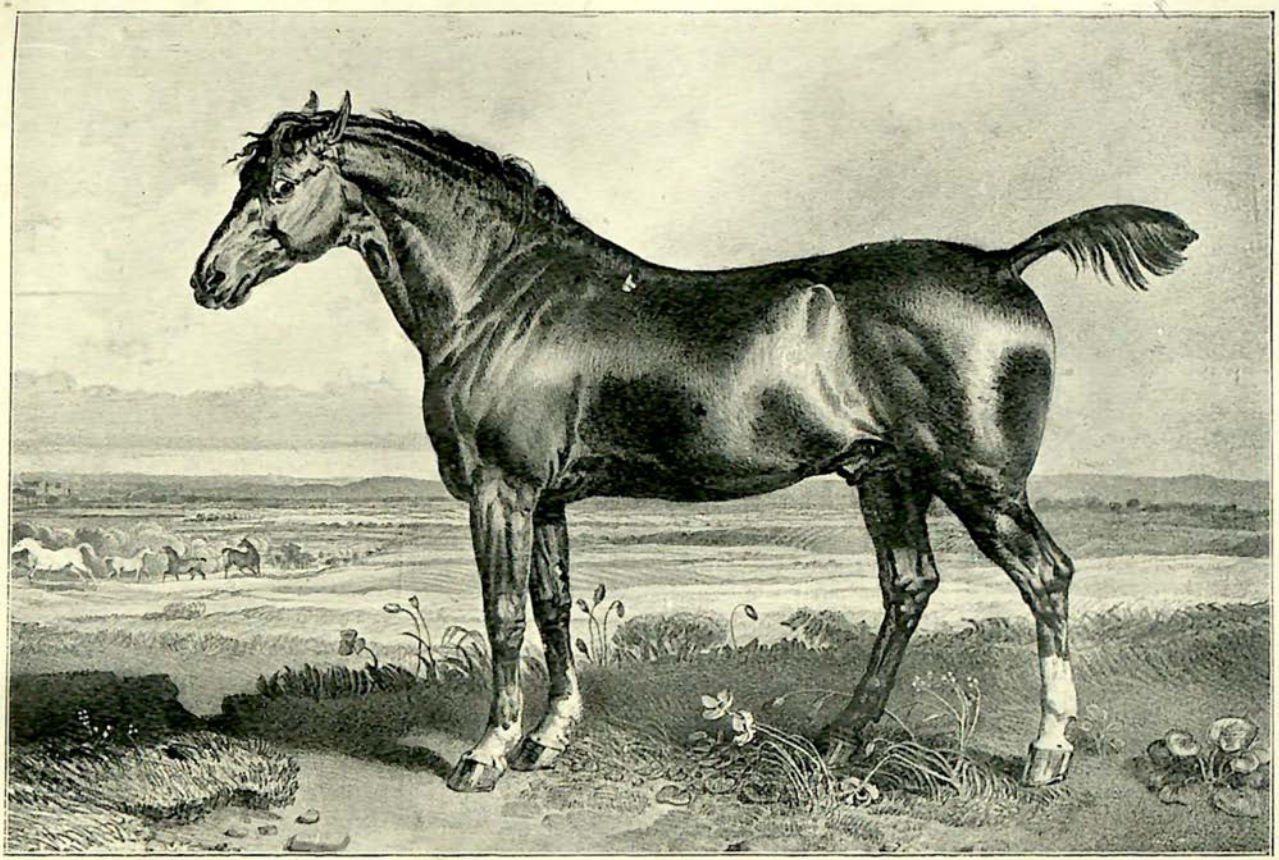
considered by many a better horse than Eclipse. The portrait of Monitor shows the best stamp of the old Norfolk Hackney; muscular, hardy and sound of constitution and limb, this breed was the ideal roadster.

What Foreign Nations are Doing.

Foreign Governments recognise the fact that they can learn something from their neighbours; they give proof of this by the encouragement they lend to Horse Shows of an International character, such as those which have been held in recent years at Antwerp, Hamburg, Amsterdam, Vienna, Brussels, and last year at Paris. These exhibitions afford opportunities which do not occur otherwise of comparing the results of various systems and methods of breeding.

A golden opportunity of seeing the stamp of horse each Government of Europe is striving to produce for military purposes occurred in September, 1900, in the International Horse Show held at Paris, when the French Government spent upwards of £50,000 in prizes on erecting suitable buildings, &c., for the show, which lasted only one week. There were collected horses of numerous and varied strains from all parts of France, from Germany, Hungary, Austria, Russia and Turkey. So excellent an opportunity for comparing a large number of representative examples of different breeds is unlikely to recur in our time, and it is a thousand pities that the War Office authorities did not send one or two competent men to profit by the wonderful object-lesson there provided.

The army horses of various nations exhibited at the Paris Show were shown mounted. To demonstrate the results of the practice of breeding for the various classes of work horses are required to perform, a selection of sizeable stallions and mares was first paraded, and these were followed into the ring by a troop of heavy cavalry mounted on the produce of these stallions and mares. Then we were shown stallions and mares of medium size, and with them a detachment of



Painted by JAMES WARD, R.A.

HACKNEY MONITOR, the property of George IV.

cavalry mounted on their progeny. After these came stallions and mares more highly bred, followed again by a troop of light cavalry mounted on their progeny. Nothing more interesting and more instructive could have been devised.

It is worth while glancing briefly at the systems prevailing in France, Hungary, Austria, Germany, Italy, Turkey and Russia. The reader will observe that the object of each Government being to foster and encourage the breeding of horses of classes most useful to the people of the country, there is in every case considerable variety of breed in the public studs, and that the owner of a mare may exercise his own judgment in selection of a sire.

Horse-Breeding in France.

At the conclusion of the wars which called forth all her strength in the earlier years of the nineteenth century, the want of horses in France engaged the serious attention of the Government. Commissioners were appointed to travel through the country and ascertain what horses of certain old and esteemed breeds could be procured to re-stock the Royal Studs; and measures were adopted to encourage private breeders.

The *Sporting Magazine* of 1820 contains translation of a minute presented by the Minister of the Interior to Louis XVIII. recommending a number of gentlemen for gold and silver medals in recognition of the work they had done and were doing to promote the breeding of horses. Some details are given of the studs owned by these gentlemen, and from these it would appear that Arabs and Spanish stallions found place in several private studs.

From the same publication we learn that for some years prior to 1820 foreign breeders had ceased to buy only Thoroughbreds in England to improve their stocks, and "great numbers of our half-bred mares have been collected and sent abroad." The trade then established has continued ever since, as has been shown on pages 6 and 7, under the heading "Purchase of English Mares by Foreigners."

"Cecil," in an article on racing in the *Sporting Magazine* of 1851, says horses for general use were then very scarce in England, while the French Government were encouraging their production, more especially that of powerful animals for military purposes and for general utility.

France now, for stud purposes, is divided into six districts, which contain 22 Government studs for stallions.

From these studs 3,038 stallions of different breeds ar distributed among 689 local covering stations for the public service.

The Report of the Inspector-General of Horse-Breeding operations in 1899 gives the following list of stallions serving in that year; these are divided into three classes:—

Thoroughbreds ...	Thoroughbreds	262
	Arabs	105
	Anglo-Arabs*	260
Not Thoroughbreds ...	Southern half-breds†	164
	Normans and Vendeans ...	1,384
	Qualified Trotters‡	261
	English Hackneys	71
	English Hackneys—cross-bred §	78
Draught	Percherons	278
	Boulonnais	61
	Ardennes...	54
	Bretons	51
		3,038

Since the year 1899 the Government have increased the number, and this year the total number of stallions is 3,450.

From the table showing how the stallions are distributed among these 22 Studs, we may select two important examples, the stud at Tarbes, in the Pyrenean region, where light horses are chiefly bred, and Le Pin, in Normandy, where heavier saddle horses, carriage and light draught, and a proportion of heavy draught horses are produced.

At Tarbes, in 1899, the horses available for distribution among covering stations, were:—*Thoroughbreds:* English, 34;

* Cross between English Thoroughbred and Arab.

† Southern (*du Midi*) horses are bred in the Tarbes district and have a strong strain of Arab blood.

‡ Certified to have trotted one kilometre (about 5 furlongs) in 1 minute 40 seconds. These horses have been graded up from Hackney sires which were imported from England forty or fifty years ago.

§ Cross between English Hackneys and Hunter mares imported from England.

Arabs, 27; Anglo-Arabs, 48; total, 109. *Half-Breds:* Southern horses, 37; Normans and Vendeans, 7; Norfolks, 4, total, 48. In all, one hundred and fifty-seven stallions.

At Le Pin, the following were available for distribution:—*Thoroughbreds:* English, 22; Arab, 1; Anglo-Arab, 11 Total, 34. *Half-Breds:* Southern horses, 3; Normans and Vendeans, 97; Qualified Trotters, 55; Norfolks, 20. Total, 175. *Draught Sires:* Percherons, 67. In all, two hundred and seventy-six stallions.

The largest stud in France is that at St. Lo, in Normandy, whence 365 stallions were distributed in 1899; but it is less representative than the two of which details have been given, consisting of 281 Norman and Vendean stallions, with 59 Qualified Trotters and 25 English Thoroughbreds.

To further illustrate the system, let us take one small covering station, to which there are hundreds similar—that at Lesparre, in the Médoc. The stallions which stood there for three months during the past season (1900) at Lesparre were as follows:—

1. MONBRAN—*Thoroughbred.* Fee for Half-bred mares, 5*s.*; for Thoroughbreds, 16*s.* 8*d.*
2. BALSAMIN—*Thoroughbred Anglo-Arab* (*i.e.*, by a Thoroughbred sire; dam by pure Arab). Fee, 5*s.*
3. TROUPIAC—*Half-bred* (by Thoroughbred Anglo-Arab; dam by Half-bred Norman sire). Fee, 5*s.*
4. RIP RIP—*Half-bred Trotter* (by Thoroughbred; dam by Half-bred Norman sire). Fee, 8*s.* 4*d.*
5. RISQUE À TOUT—*Half-bred Trotter.* Fee, 5*s.*
6. PIÉDESTAL—*Half-bred Norman.* Fee, 5*s.*
7. QINA—*Half-bred Norman.* Fee, 5*s.*

All these "Half-bred Trotters" and Half-bred Norman stallions have Hackney blood in their veins.

Lesparre is in a district in which horse-breeding is by no means a prominent industry—it is one of the chief vine-growing regions of France, the celebrated vineyard Château Lafite is only seven miles distant from Lesparre—yet the owner of a mare may choose from seven stallions, representing

Anglo-Norman Stallion RADZIWILL, the property of the French Government

five different strains, paying the small fees specified above. The supply of stallions is adjusted to meet the local demand; the foregoing list shows us that experience has taught the Stud authorities to make provision for service by half-breds of five times as many mares as are sent to the Thoroughbred or Anglo-Arab. There is no heavy draught stallion at Lesparre; the reason is to be found in the fact that oxen are very generally used for cart and plough in this district, and heavy draught horses therefore are not bred. If we turn to the Finistere Department of Brittany, where post horses are bred, we shall find the same principle in operation; there stand stallions of a stamp calculated to get the sturdy "blocky" horses for which the district is noted, and which have been graded up from imported Hackney sires.

In France, during the year 1899, there were 2,940 stallions belonging to the State *in actual work*; these covered 170,155 mares; the fees paid for service amounted to 1,275,250 francs, or £51,010. Looking more closely into the returns of service, we find that in the Thoroughbred class (English, Arab, and Anglo-Arab), 579 stallions performed 26,144 services, or about 45 each; the Half-bred class, 110,411 services, or over 57 each; and the Draught sires, 33,600, or over 77 each. The Thoroughbred stallions were employed more especially for crossing purposes, 21,743 mares, other than Thoroughbreds, having been sent to them. The stallions at each local covering station are changed frequently.

An excellent representative of the stamp of horse produced by judicious crossing is shown in the engraving. This is the portrait of Radziwill, an Anglo-Norman stallion, descended through his sire from the Norfolk Phenomenon. Radziwill, when this portrait was taken last year, was five years old; he is a chestnut standing a shade under 16.1, and is the model of the high-class carriage-horse. He was shown with his sire Juvigny at the International Show at Paris, and the resemblance between father and son was a striking object-lesson in the success with which judicious mating can produce animals true to type. Radziwill's dam was a small Anglo-Norman mare,

but coming of a breed normally big, her foal proved true to his breeding and furnished into a truly grand harness-horse.

Besides these 3,038 stallions belonging to the State, there is a large number in the hands of private owners. Any stallion whose services are available to the public must be licensed by Government as belonging to one of three classes :—

(1) "Approved" stallions, which are considered good enough to improve the breed of horses. These are divided into two classes: Sires which earn over 100 francs (£4) per service form the first class; these receive no bounty from the State. The second class consists of sires for whose service 100 francs or less is charged by the owner; these receive an annual premium of from £12 to £80 a year. In 1899, there were 1,334 "Approved" Stallions, viz :—

Thoroughbreds	303
Not Thoroughbreds	485
Draught	546
	1,334

(2) "Authorised" stallions, which receive no premium, but whose progeny are eligible to compete at shows subsidised by the State. There were—

Thoroughbreds	24
Not Thoroughbreds	34
Draught	162
	220

(3) "Accepted" stallions, which have nothing to recommend them but a certificate of freedom from roaring and intermittent ophthalmia. In 1899, 7,631 stallions were brought before the committees for acceptance for service during the season of 1900, and 7,467 were passed.

There is only one Government stud farm, where sixty mares are kept. This is at Pompadour.

English Thoroughbred, Arab and Anglo-Arab horses only are bred at Pompadour, and the farm is only a small factor in the general scheme of breeding. Improvement is sought principally through the provision of good stallions.

Bounties are also given for brood-mares, filly foals, and as prizes for horse-breaking at public competitions. These measures encourage owners to retain possession of the best breeding-stock for the benefit of the nation, and stimulate endeavour among the people to achieve skill as horse masters.

In every breeding district in France shows are held at which the young stock are exhibited and are awarded prizes. The two-year-olds are led and the three-year-olds are shown mounted.

The judges are officials connected with the neighbouring studs and one or two representatives of the head office of State *Haras* in Paris.

About £270,000 of public money is spent annually in France in horse-breeding. The expenditure includes the maintenance of the stallion studs and depôts, purchase of horses, premiums to private stallion owners, and prizes given at races, local shows, &c.

Horse-Breeding in Germany.

The stallions for public service belonging to the State, which in 1896-7 * numbered about 2,600, are distributed among 17 "Rural Studs," which, in their turn, supply stallions to 899 covering stations. The stallions at the end of 1895 were classed as follows:—

Class I.: *Light Riding-Horses*, 419 (including 94 English Thoroughbreds, 4 Arabs, and 2 Anglo-Arabs).

Class II.: *Heavy Riding or Light Draught-Horses*, 1,153.

Class III.: *Heavy Draught-Horses*, 681; *Percherons*, 2; *Belgian and Ardennes Horses (Draught)*, 86; *Clydesdales and Shires*, 71; *French and Norman Farm-Horses*, 13; *German Farm-Horses*, 161.

The principal object of the German Government Stud Department is to provide Remounts for the Army. Of the stallions mentioned above, 1,989 were purchased, only 598 having been bred on the State farms. It may be added that in the year 1884 there were 775 covering stations in Germany, with 2,152 stallions; in 1895 the number of covering stations had increased to 899, with 2,587 stallions. The covering fee charged is generally under £1.

Of the Remounts supplied to the German Army in 1895 about 6,000 were for cavalry; of these 588 were got by Thoroughbred sires.

Privately-owned stallions must be approved by local committees (which also license bulls and boars) before their services may be hired. During the financial year of 1895-96, 2,308 licenses were applied for, and of these 1,488 were granted; 812 were for light riding or light draught horses, 563 for farm and cart stallions, and 113 for crosses between the two. Much is done to promote private enterprise.

* Information of a later date concerning the German studs has proved unobtainable.

There is a special fund provided by the Government from which private horse-breeding associations can obtain loans free of interest. Such loans must be repaid within six years. At the end of 1895, 61 associations had taken advantage of this fund, the total lent being £5,275.

Brood-mares may be purchased on very easy conditions from the Government Supply Depôt at Kalkreuth; the principal stipulation being that the buyer shall have the mare covered by a good half-bred stallion belonging to an Imperial stud, and shall offer the produce when three years old to the Army buyer as a Remount. If, however, the owner wish to employ the produce for stud purposes he is not bound to put it on the Remount market. Pecuniary inducements are also offered to breeders to retain good brood mares and rear young stock.

For the convenience of breeders the War Office agents arrange markets at suitable times and places, where young animals on sale as Remounts for the Army may be inspected and bought; no middlemen are employed.

Horses are purchased by the military buyers at three years old. The average price paid is about £38, but purchasing officers are, or were a few years since, instructed to deal liberally with the breeders. I am informed that it was the rule not to try and beat down the price asked for a horse if it were reasonable; and giving a small breeder more than he demanded was not unknown if the animal appeared more valuable than the owner supposed it. The young horses thus purchased are kept at the Remount Depôts for about fifteen months and are then distributed among regiments. Before this distribution takes place, breeders may select any mares that promise to make particularly good brood-mares, paying a little more than the average price for the animals so chosen. Few, however, take advantage of this privilege.

Mr. Frederick Wrench, in the *Badminton Magazine* of December, 1899, describes the stallions in the Rural Stud at Celle, near Hanover. There were, at the time of his visit, 250

horses in this establishment, fourteen of which were Thoroughbred and all the rest Half-bred Hanoverian. Of these latter Mr. Wrench says: "The regular Hanoverian type is a dark brown or chestnut placid-looking harness-horse, standing at least 16.1, with great limbs, a good look-out, a fairly good back, and long enough to fill any harness." These Hanoverian horses trace their ancestry back to Hackney stock, which was imported into Germany fifty or sixty years ago by Mr. H. R. Phillips. The names of both Irish and Yorkshire half-bred horses still appear on a few of the pedigree cards fixed in each stall at Celle.

Hackney blood was widely diffused over the horse-breeding districts of Germany, Hanover, Oldenbourg, Holstein, Mecklenburg, and East Friesland; for, once Mr. Phillips had introduced the Hackney to his German customers, sires and dams with the blood of Performer (foaled 1810) and Ramsdale's Phenomenon (foaled 1835) were eagerly bought up to cross with the local stock. It is exceedingly probable that the inter-trade in harness-horses between England and Germany dates back to a much earlier period; the best of the German coach-horses and our own have so much of the same character in common that they would seem to be descended from practically the same stock.

In addition to the 17 "Rural Studs" referred to on page 26, there are four State breeding-studs with about 660 mares and 30 stallions. Of these Graditz and Trakehnen are the more important. The stallions bred at these establishments are sent to the Rural Studs if they can fulfil the standard of merit required by the committee which is assembled to examine them. Those that fail to satisfy the committee are sold by public auction.

The largest of these studs is that at Trakehnen in East Prussia. When Mr. Wrench paid his visit to this estate, which covers about 10,300 acres, the breeding-stock comprised 4 Thoroughbred and 12 Half-bred stallions, with over 400 mares. The Trakehnen horse, as it may be called, for it now

breeds true to type, is generally a long, low black horse, about 16 hands high, with the best of limbs and a beautiful head, "a trifle long in the back, according to English ideas, but a valuable stamp of horse, especially for harness purposes." The extreme quietness and docility of these Trakehnen horses, young and old, evoked comment from Mr. Wrench.

By the distribution of illustrated pamphlets the German Government endeavours to instruct breeders in the best methods of managing stock, and also concerning the stamps of horse required for the Army. A typical Artillery and heavy-weight saddle-horse is described as follows, for the guidance of breeders:—

"Height at 3 years, 15.1 to 15.2½; height when full-grown, 15.2¾ to 16.1¾. Activity, speed, freedom of action and endurance are required as in the artillery horse. The breast need not be so broad as in the artillery horse. The fetlock should not be too short; while, on the other hand, if too long it bends too low and causes the heavy weight carried to produce fatigue on a long march. A good back for the saddle is as necessary in the cavalry horse as a good shoulder for the collar in the artillery horse."

The "general requirements" in horses for the German Army are thus detailed:—

"(1) Small, blood-like head, neck well set on. (2) Strong, well-placed legs with big joints. (3) Well-arched ribs and good sloping shoulders. (4) Well-formed, strong back, not too long, well-coupled and high-lying kidneys. (5) Strong hocks, free from disease. (6) Round, sound hoofs with healthy frogs. (7) Sound constitution and good digestion; and (8) Free, energetic action."

The mares whose portraits are here given are of the Oldenbourg breed. The province of Oldenbourg has long been famous for coach-horses. Oliver Cromwell, when Protector, received as a gift a team of coach-horses from the Duke of Oldenbourg.

The net cost of Germany's horse-breeding establishments is about £190,000 a year.

Horse-Breeding in Hungary.

The stud machinery in Hungary is elaborate and extensive. There are four State breeding-farms where stallions are bred for the public service. The stallions, which in 1896 numbered 2,838, are sent out to 18 central depôts, and from these upwards of 946 local covering stations are annually supplied. The service fees range from 1*s.* 4*d.* to 15*s.* 4*d.* Large breeders may hire stallions from the central depôts for the season.

Hungarian methods are admirably described by Professor John Wrightson in his "Report on the Agriculture of the Austro-Hungarian Empire," published in Vol. II. (Second Series) of the *Journal* of the Royal Agricultural Society (1874); and by Mr. J. Collins, Principal Veterinary Surgeon to the Forces in 1880, whose Report on the *Studs and Breeds of Horses in Hungary* was, by permission of the Secretary of State for War, reproduced in the *Journal* of the Royal Agricultural Society.

Professor Wrightson in 1873 made a tour of ten weeks in Hungary, and visited the great studs belonging to the Crown. He observes that the breeding of horses in that country is one of the most popular branches of rural economy, and is carried on not only by the Government but by most of the great landed proprietors with wonderful results.

Hungarian breeders are at issue with the many English breeders who look upon the thoroughbred as essential to the supply of half-bred saddle horses. "We have, in fact, no distinct race of saddle-horses; but in Hungary they think it quite practicable to raise such a race, possessed of the necessary fixity of character. They still look to England for their supplies of Thoroughbreds and Norfolk Trotters"; but, as we shall read, they have in recent years succeeded in their object of establishing breeds of their own.

These Crown studs in Hungary are conducted upon a very large scale. At Mezohëyges there were upwards of 650 brood-mares. Colonel Horváth, the officer in charge of the latter stud, addressed to Professor Wrightson a letter of great interest, which shows how the Hungarians have succeeded in establishing fixed breeds of saddle-horses.

"The race of horses is throughout half-bred. We have had two studs of half-blood Arabian mares since the years 1825 and 1827; two studs of English mares (Furiosa and Abugress) since the years 1841 and 1842; also the family of Nonius, obtained from France in 1815; two studs of the ancient blood of Lippieza, which is a mixture of Spanish and Arabian blood, since the year 1807; and lately we have begun to form a stud of Norfolk blood with stallions of that race and mares of different indigenous families."

Colonel Horváth proceeds to give the numbers of the mares of the several strains he has named. At that time there were at the stud he directed 136 half-blood Arabs, 148 English, 113 mares of various strains from Lippieza, 220 Nonius or Anglo-Norman mares, and 33 of the Norfolk mares as the beginning of a stud of this breed. The stallions used included English Thoroughbred, pure Arabs or half-breds belonging to the families named.

Colonel Horváth states that the principle kept in view in breeding suitable stallions is very simple. It is the gradual improvement of a family by the introduction of nobler and higher blood, while at the same time the type of the family is retained. Where more blood is wanted full-blood horses are used according to the previous breeding of the particular family. The produce, when strong enough, is served once more by a Thoroughbred, and then the breeder resorts again to a sire of the original strain of the family. It is, in fact, a system of breeding from half-bred stock, with the occasional use of Thoroughbreds when there is a tendency to coarseness.

Colonel Horváth was asked this question, "Do you hope to establish fixed or permanent half-bred races which may be bred truly *inter se?*" and the answer was: "The families of Nonius, Majestosa (Lippieza blood), Gidran and Schagya (Arab blood) are already constant. Furiosa and Abugress (English Thoroughbred) and Norfolk breeds will require 10 or 12 years more of careful breeding."

I should explain that the Nonius strain derives its name from a famous sire of that name which was procured from France in the year 1815. The original Nonius was got by an English horse named Orion out of a mare of the Anglo-Norman breed; which breed was largely built up on Norfolk Trotter blood. To what breed Orion belonged the writer has not been able to discover; the name does not occur in the lists of Thoroughbreds sent abroad which are printed in the General Stud Book.

There were few more interesting stables at the Paris International Show in September last than that of the Hungarian Government. The horses had been selected to illustrate the results of the cross-breeding system described; and these furnished living proof of the sound, practical wisdom which directs stud operations in Hungary. Among them were horses the very model of what the fifteen-stone Hunter should be, and perfectly shaped carriage-horses. The best were perhaps those of Nonius (Norfolk Trotter) and North Star (Thoroughbred) strains.

On the estate of the Archduke Albrecht, in Lower Hungary, there are imported Clydesdales; but, with this exception, no other horses but Thoroughbreds and Norfolk Trotters were to be seen from Britain. Reviewing all he had seen during his ten weeks tour, Professor Wrightson says, "The result of much observation was to show me that the best horses in Hungary are descended from English stock."

A number of the stallions foaled every year at the Royal studs and about 200 yearlings, which are purchased annually at an average price of 235 florins (£23 10s.), are set apart and reared with the view of use as public stallions. At the age of three years these are inspected and classified: about one-half the number are rejected as stallions and cut; the best, to the proportion of about 20 per cent., are kept for service in the Royal studs, and 25 per cent. are sold as "Communal stallions"; death accounts for the remaining four or five per cent. of the total.

The Communal stallions are sold to the chiefs of the agricultural divisions known as Communes at prices varying from £30 to £50, payable in four annual instalments. Each Commune undertakes to maintain its stallion at its own expense and in a suitable manner, the proper discharge of its obligations being the care of one or two government officials. The stallion is available for service within the limits of the Commune at a maximum fee of two florins (four shillings). In one part of Hungary the method of service is similar to that in vogue in this country; in another it is usual to turn out the stallion with the mares, which may not number more than eighty-eight.

Should the horse not be kept in a proper manner, he is, after repeated cautions, liable to be withdrawn from the Commune at the end of the third year, and the Commune forfeits the instalments of the price paid. If the stallion dies or fails as a stock-getter during the first three years, the authorities replace him by another. At the end of the third year he becomes the property of the Commune, which is then able to dispose of him as it pleases. Many Communes believe it advantageous to change their stallion every three years, which they can do in accordance with the regulation that makes him then their own property. The wisdom of this step of course depends upon circumstances.

The estimates for the Hungarian Horse-Breeding Department for the year 1897 amounted to £233,333.

Horse-Breeding in Austria.

In the year 1876 a Committee of Inquiry on Horse-Breeding was appointed by the Austrian Government, and the result of its investigations was the division of the whole country into five districts, with the view of providing stallions suited to the varying requirements of each. From Central Depôts in each of these five districts over 2,000 stallions are distributed among 522 stations, each station accommodating from one to ten stallions. There are no fewer than thirteen different breeds of horse in use, and care is taken that each station shall receive a stallion or stallions suited to local requirements.

In fulfilment of the scheme suggested by this Committee, *good* local breeds are retained pure, approved stallions of each being used for public service; in districts where the local breed have degenerated or stand in need of improvement, the stallions are carefully chosen to raise the general standard. Thus, Thoroughbreds of English descent but bred in the country are used on strong mares to supply Remounts. In other districts Roadster, Clydesdale, and Suffolk stallions are sent to be mated with mares of a class to throw heavy artillery riding and draught horses.

In the mountainous regions, where small, active, and hardy horses are required for draught and pack work, every endeavour is made to keep the local breed pure. The *Pinzauer* horses are highly spoken of for such work in hilly districts; they are very strong and hardy, and have good action; the lighter class trot quite well enough to perform heavy carriage work over bad ground. Their colour is peculiar—white or light, "splashed" with dark spots.

In 1897 the Austrian State stud included, among other stallions, 94 English Thoroughbreds, 766 English Half-breds, and 208 Hackneys.

Special inducements are held out to private breeders to keep brood-mares, and prizes for mares and young stock are freely offered. The regulations concerning privately-owned stallions vary in various provinces of Austria; but, broadly, it may be said that private stallions are only encouraged if suitable for stud purposes. Such horses are licensed; the horse in some parts must be inspected once a month during the covering season. Anyone who uses an unlicensed stallion to cover mares other than his own, whether for a fee or gratis; or knowingly allows a mare to be covered by an unlicensed stallion; or suffers entire colts of one year old or more to pasture with mares of any age, is liable to a fine equal to £8 6*s*. 8*d*.

In addition to the five Central Depôts there are two State breeding-studs. These are maintained for the purpose of producing stallions for public service; one is at Radautz and the other at Piber. At Radautz there are over a thousand animals, including about 250 brood-mares. Pains are taken to keep all the young stock at Radautz in condition; they are kept as much as possible in the open air, and are exercised for at least three hours daily by mounted drovers, who are assisted by dogs.

During the summer, from May to September, the young horses are driven to the hills or on to distant wild ground, and left to their own devices. At the age of three years the young horses are taken in hand and broken, and those stallions which are considered suitable for service are got into condition and distributed among the Central Depôts in their fourth year.

There are, in addition to these two breeding-studs, establishments at Kladrub and Lippieza, where carriage-horses are bred. The Kladruber horses are very large and showy animals, with great action; they are descended from Spanish and Italian stock, but careful mating for generations has greatly increased their size, which is now often as much as 17 hands 2 inches. These horses are chiefly used in the Royal carriages on State occasions.

The Lippizienne horses have marked character of their own, having been obtained from Spanish, Italian, and Arab stock, carefully crossed. They are long-bodied, short-legged horses, with good quarters, legs and feet, and stand from 15 to 16 hands. They make remarkably good carriage-horses, being very handsome, hardy, and fast.

The covering fees in Austria range from 1*s.* 8*d.* to 16*s.* 8*d.* for ordinary stallions; in some very poor districts mares are covered by the State horses free of charge. Her horse-breeding operations cost Austria £140,000 a year.

For stud purposes the country is divided into seven districts, which include 377 covering stations, each of which accommodates one or more stallions. Only ten of these stations receive four or more sires, the large majority receiving one or two. In 1895 there were 582 Government stallions distributed among the covering stations; this total comprised 72 English thoroughbreds, 78 Arabs, 6 Anglo-Arabs, 396 Hackney and half-breds, 29 heavy draught-horses and one American Trotter.

With the object of ensuring uniformity, it is considered advisable to keep the same stallions at one covering station as long as possible. With the exception of one or two thoroughbreds, whose services are only requisitioned by wealthy owners of racing-stock, the service fees are low, though higher than in most Continental countries. In 1895, 18,846 mares were served by Government horses at a fee of 9*s.* 7*d.* each; 1,021 at £1 each, and 258 at £1 12*s.* each. The War Department buys Remounts at 3 and 4 years old, paying, on the average, £24 for three-year-olds, and £32 for four-year-olds. The horses so purchased are sent to one of the Remount Depôts, and are issued to regiments when $4\frac{1}{2}$ years old perfectly unbroken. About 3,500 young horses are annually purchased by the Remount Committees.

Greater stringency in examination of late years has produced a considerable decrease in the number of privately-owned stallions performing public service. There were 645 private stallions standing for public service in 1895.

It is from Colonel Needham's Reports on stud work in Italy that some of the above particulars have been taken; he states that the great defect of the Italian horse is want of size and substance, but he admits that the cavalry horses show great endurance when carrying heavy weights and performing long marches.

Italy spends about £30,000 net on horse-breeding annually.

Horse-Breeding in Russia.

In no European country is more attention devoted to the breeding of horses than in Russia. The oldest Imperial stud now in existence is that at Derkoulsk, established in 1750; but, without reviewing the history of the Russian horse-breeding department, it may be said that it has been an object of solicitude to successive sovereigns for the last 400 years. Ivan III., who reigned during the last forty years of the fifteenth century, established the first Government stud of which there is record near Moscow, and compelled all great landed proprietors to establish breeding-studs.

The Government maintains about 1,100 stallions at 15 depôts; from these depôts the horses are distributed among covering stations all over the country, wherever horse-breeding has place among the local industries. As in other countries, the number of stallions at each covering station varies in accordance with the needs of the district. They vary in number from two to nine, but four is the usual complement.

The fees charged for service range from the equivalent of 3*s.* 2*d.* to £2 7*s.* 6*d.*, in ratio with the merits of the stallion selected; each mare is allowed three leaps, if necessary, but not more; the covering season lasts from the 3rd February to 18th June. The stallions are put to service at five years old, and in their first season are restricted to 40 mares; when six years old they are permitted to cover 60 mares, and in very exceptional cases as many as 90. Stallions which are old, but still capable of service, are given away on condition that the recipient uses them for stud work.

Since the year 1862, shows for all horses bred in Russia have been held annually; about £22,500 are given annually in prizes, and honorary awards are also distributed. The 26 Turf Societies in Russia receive among them £14,000 a year

to be given in stakes. Horse fairs are encouraged; there are 460 of these in various parts of the country, at which some 300,000 horses change hands.

Independent of the 15 Stallion Depôts there are four Government breeding-studs. There is one at Khrénóvoi, which was purchased in 1845 from the daughter of Count Alexis Orloff, the descendant of the noble who founded the famous breed of trotting-horses known by his name. This stud consists of saddle-horses (17 stallions and 100 brood mares); trotters (13 stallions and 100 brood mares), and English Thoroughbreds (5 stallions and 45 brood mares). It is also celebrated for the Rostophschine breed of trotters, which was founded by Count Rostophschine, a contemporary of the founder of the Orloff breed. The best mares here are those got by Arab stallions from English mares. Khrénovoi is also one of the stallion depôts.

The Belevodsk stud embraces four separate establishments:—(1) Derkoulsk, referred to above as the oldest stud in Russia, is given up to the breeding of carriage-horses, and the stud consists of about 22 stallions and 150 mares. (2) Streletz, devoted to a stud of Arabs—about 20 stallions and 150 mares. The Streletz stud has given its name to a breed of horses which differs only in its superior size from the Eastern-bred Arab; the Streletz horses shown at Paris in September, 1900, were among the exhibits that attracted most attention. (3) Limarveo, where Arabs only are bred; and (4) Novo Alexandrov, for half-breds (about 20 stallions and 150 mares). All these four establishments are known collectively as the Belevodsk stud.

The third stud, at Janow, a comparatively small one for half-bred horses; and the fourth, at Orenbourg (12 stallions and about 85 mares) is for breeding only Kirghiz or steppe horses.

For more than a century the Russian Government and private owners have imported Thoroughbreds from England. The English Thoroughbred stallion Grey Diomed and four mares formed the foundation stock of the Golowkowa Stud in 1794. Traveller and Orelius, son of Eclipse, were

imported in 1799, Doncaster in 1810, Cerberus in 1812, Memnon, winner of the St. Leger of 1825, a few years later. In 1833 a special mission was sent to England to buy stock; the stallions Birmingham, Middleton and Admiral were purchased, and numerous mares, among them Lalla Rookh, Executrice, Teedlewings (by Touchstone), Metal (by Glaucus), and Marchioness. Mr. Kirby of York says "The Druid" began his business with the Russians in 1791, when he was 21, and repeated his visits till he reached the age of 60, taking with him "the choicest blood of Yorkshire." The highest prices Mr. Kirby ever received from the Czar Nicholas (1825-1855) were 2,000 guineas for Van Tromp, and 2,250 for General Chassé.

The Imperial studs are directed with great judgment; the utmost care is exercised in the choice of forage; all horses are exercised regularly every day, and young horses when 3½ years old are tested for strength and staying-power according to their class and breeding. No mare is given up to breeding until she is five years old and is fully developed.

Attached to each Government stud farm is a school of horsemanship, where breeders receive instruction in the principles of the industry, and where riding is taught. At Khrénovoi is a special school where trainers, jockeys, huntsmen and coachmen are taught the best methods of training young horses.

Private enterprise is encouraged in every way, and very many of the Russian nobility maintain large breeding-studs on their estates. At Slawuta, Prince Sanguszko has, or had, a stud of pure-bred Eastern horses, which, Mons. Salvi observes, show to what a pitch of perfection the typical Arab may be brought when wisely mated, well nourished, and reared under favourable conditions; "it has the height, bone, and spirit of an Irish horse, and yet is the Bedouin horse, preserving all its Eastern characteristics, but bigger and stronger." Many private owners devote their attention entirely to the Anglo-Arab. At least one, however, makes a speciality of carriage-horses, which he has succeeded in bringing

to a high standard, using Mecklenburg stallions upon Eastern mares.

The twelve regiments of Horse Guards and 8th (Reserve) Cavalry Brigade, are horsed from the Imperial studs, as the steppe-bred animals are not powerful enough to carry the men.

About 7,200 horses are required annually for the Russian cavalry of the line, and for information concerning these we cannot do better than turn to Captain H. Hayes' excellent book.* There are seven "brigade stations" to which the Remount officers send the young horses which they buy from the breeders; these horses have run wild, or half wild, on the steppes until caught for sale, and their entire education is carried out by the regimental breakers. They cost on the average about £13 5s., but by the time they are fit to take their places in the ranks have cost about £37 each. Dragoon Remounts must not be less than 14.2⅝ in height, and are bought from the age of 3 off to rising 5. Captain Hayes says of a batch of 800 remounts which had been sent in by the buyers a few days before:—

"As these dragoon Remounts average about 15.1½, they are somewhat small, and to English eyes would probably appear at first sight rather light; but closer inspection shows that they have capital bone, are compactly built, and have no superfluous lumber to carry. They are, with very few exceptions, entirely free from cart blood, and consequently, if their fore-legs in some cases seem a bit deficient below the knee, the back tendons run more or less parallel to the cannon bone, and we find no coarseness about the fetlocks, which is evidence of inability to stand work under the saddle. These Russian Remounts have, as a rule, short backs, muscular loins, good feet, fairly small heads, and are well ribbed up. They are particularly good across the loins, which is a point that receives much attention from Russian breeders. Formerly the horses of the Don, from which country the best Remounts are obtained, were generally "back at the knees"—"calf-kneed"—but this defect has been almost entirely eliminated by careful crossing. The members of the selection committees, which pass or reject the animals brought up by the buyers of Remounts, are specially critical as regards the quality of the pasterns. On the whole, they have very good fore-legs. Their shoulders are inclined to be short; but their worst point is undoubtedly their hocks, which in many instances are weak, too much bent (sickle-hocked), or inclined to curb. These Remounts, especially those which come from the country of the Don, have a strong infusion of Arab blood, with a dash of the thoroughbred. They are essentially saddle-horses bred for cavalry purposes; the Russian horses are reared under conditions of privation and hard work to get their living, and are consequently more useful as slaves and campaigners than they appear to be."

* *Among Horses in Russia.* By Captain M. H. Hayes. R. A. Everett & Co., London, 1900.

With regard to Captain Hayes' reference to Arab and thoroughbred blood, it must be observed that four * of the fifteen Imperial stallion depôts are situated in the horse-breeding regions of the Don.

* Khrénovoi (distributing 100 stallions); Tambov (60); Kharkov (60), and Saratov (50).

Horse-Breeding in Turkey.

The Ottoman Government possesses four important studs, all of which are situated in Asia Minor and are organised on lines similar to the great Hungarian establishments, Mezohëyges, Babolna, &c., and which are under the control of the Minister for War.

The Tchifteler stud, situated in the province of Brousse, on the sea of Marmora, was established in the year 1832; the lands, covering over 29,600 acres, consist of somewhat varied pasture and of vast prairies watered by three streams. After the Crimean War a thousand mares were received at Tchifteler from the English and French Armies, and these, like the animals already at the farm, were allowed to range at liberty until the year 1886, when nearly the whole stock perished through drought.

In 1886 three hundred Hungarian mares of inferior and unsuitable strains were sent to this stud; these were kept under cover, but the native mares and their produce continued to roam at large. As stable accommodation was built, however, the latter were housed, as well as fifty brood mares which had been purchased in Russia.

Since 1892 Arab blood has been introduced, and only since this step was taken the Tchifteler stud has been able to furnish annually over a hundred good and efficient Remounts. The progress made has, however, been continuous, and this year the total number available for the Army will be three hundred.

The Arab stud consists of 55 stallions of pure blood and eleven half-bred stallions got by Arabs out of native mares; there are ten pure Arab mares, and 188 half-bred mares.

In addition to these, there are 91 native stallions and six Normans, which were bought in 1900, 13 Hungarian, and

11 Russian stallions. There were last year 660 brood mares and fillies, of which 35 were Russian, 93 Hungarian and the remainder native-bred.

The officer in charge of the stud is a Colonel, who has under him a military staff.

The second stud is that of Sultan Sou, between 18 and 16 miles from the town of Malatia, in the province of Harpout, in the interior. It controls an area about 600 miles square, which includes 32 villages, having some 5,000 inhabitants; part of this area is given up to agriculture and the remainder is devoted to horse-breeding.

The Sultan Sou stud was founded in 1861 and was reorganised in 1889; attached to it is another farm—that of Osman Didé—where there are enormous hill pastures, to which the droves of horses are sent in summer. There are at Sultan Sou 12 pure Arab stallions, 6 Kurdish and 1 Hungarian; 7 pure Arab mares, 21 Kurdish and 12 Hungarians. The object of this establishment is the improvement of the Kurdish breed of horses: the number of Kurdish brood mares will this year be increased to 200; how many mares of this strain are running at large in the district is unknown.

The Tehoukourova stud owes its name to a once famous breed of horses which is said to be now nearly extinct. It is situated in the province of Adana, which is bounded on the south by the Mediterranean, and consists of two vast estates, one covering 197,680 acres, or about 20,000 acres more than the county of Middlesex, and the other covering about 74,160 acres. The larger estate consists of prairie land comparable to the pampas of South America; the second, and less extensive, lies on the shores of the Mediterranean, and along the mouth of the river Djihan which flows into it.

This stud was established in 1892. There are now eight pure Arab stallions, three Kurdish, and five horses described as "Anatoliotes," obviously after the province of Anatolia in Western Asia Minor. There are 21 pure Arab mares and 62 of the Tehoukourova breed. Many native horses also run at large on the two estates. The special object of this stud is to

re-establish the Tehoukourova breed. It is under the direction of a Colonel of the Turkish Army, who, besides a civil staff, has a troop of cavalry under him.

The Vezirie stud farm covers about 131,780 acres, and lies close to the city of Bagdad, between the rivers Tigris and Diala. This stud, which is under the direction of a General of Brigade, was founded in the year 1896, and the progress made so far does not appear to have been very great. The stock last year consisted of 10 stallions and 57 mares, all pure Arabs, the object of the Vezirie establishment being the production of Arabs of the best strains. Endeavours are made every year to buy the best young horses from the wandering tribesmen, but good ones are rarely obtainable; in 1900 it was hoped that one hundred would be secured, but three foals and one filly of the highest stamp were all that the director of the stud was able to buy from the tribesmen.

Local covering stations are established in various districts, and these are supplied with stallions from the four large Government studs; and pure bred Arab stallions are often lent to village communities far distant from the stud headquarters for the sole purpose of improving the breed of horses.

Whether service fees are charged or service is rendered free does not appear from the information which has been kindly placed at the writer's disposal by the French Minister of Agriculture.

Each stud has a stud-book, which contains the guarantees and proofs given by the sheiks in respect of the horses obtained from the tribesmen. These warranties are verified by the Inspectors who travel in the interior and pay regular visits to the tribes in question.

Horse-Breeding in India.

OPINIONS OF THE LATE VETERINARY COLONEL HALLEN

Since the following pages were written, the Commission, which was sent out in the autumn of 1900 to enquire into the causes of the failure of the present system of Horse-breeding in India, has returned to England. It is expected that the Report of the Commission will soon be published, and it is much to be hoped that some light may be thrown on the question, which is one of the first importance.

The first endeavours to improve the native breeds of horses were begun by the East India Company in the year 1794, and the "Stud Department" then established continued in existence until 1876, when it was abolished. This institution had accomplished a certain measure of success; some excellent horses were bred there, and were drafted into the stables of our cavalry regiments; but experience showed that the results achieved were not commensurate with the cost of maintaining the studs, and in the year named (1876) the Department was abolished and the Army Remount and Horse-Breeding Departments were created.

The "Department of Army-Remounts" had for its duty the selection and purchase of Australian and Persian horses in the local markets, and also of as many suitable country-breds as might be procurable. The Department of Horse-Breeding Operations was organised with the object of encouraging productions of suitable country-bred horses; and it is to this Department that we direct our attention.

In a remarkably able and instructive paper * by the late Veterinary Colonel J. H. B. Hallen, the then General Superintendent of Horse-Breeding Operations in India, we find the

* *Government Horse-Breeding in India: Past, Present, and Future.* (Read at a meeting of the United Service Institution of India, 6th May, 1887.)

plan of the new scheme clearly laid down. It was, broadly speaking, to establish a native breed of horses, which should in course of time render the Army in India independent of foreign markets. The Government was to maintain a supply of stallions of the classes most suitable for improving the native breeds; only selected native mares were to be eligible for service (always gratis) by the Government stallions, these mares being branded to prove their right to service, and also to prevent their purchase by native cavalry or police horse buyers. A system of prize-giving at fairs and shows, with some slight advantages to the produce of branded mares, was instituted; some assistance was to be given in teaching and encouraging the practice of castration among native breeders; and all horses fit for Army service were to be purchased at remunerative prices by Government. The number of Remounts required for horse and field artillery, British and native cavalry, amount, on the average, to 2,824 each year in time of peace.

For all reasons, both political and economical, it has always been held most desirable that India should produce the horses necessary to mount both British and native cavalry, and to horse the artillery. Colonel Hallen gave a list of thirteen breeds of Indian horses (excluding the Arab and Persian), all of which he described as "possessing good powers of endurance, and showing thereby *blood*, but generally wanting in size, and many too small for the work of the Indian Army, constituted as it now is; though some of purely local breeds can be found fit for native cavalry." In another paper * Colonel Hallen described these breeds with more exactness.

"The majority of country-bred mares may be said to range in height from 13 hands 2 inches to 14 hands 2 inches, and some few are found as high as 15 hands, and in weight from 6 to 8 cwts. They are, as a rule, remarkably well-bred, rather light in barrel, not evenly put together, often of an angular and ragged appearance, with small but steel-like bone of joints and limbs, and measuring from 6½ to 7½ inches under the knee at the top of the shank bone. They have wonderful powers of endurance under either tropical sun heat or intense cold, with a light weight, say from 10 to 12 stones in saddle or light draught, and after the hardest day's work are never off their feed, but always ready for it; moreover, they will continue doing work on the scantiest of food."

* *Horses Required for the Indian Army.* (Read at a meeting of the United Service Institution of India, 25th August, 1888.)

Colonel Hallen observed that these mares offer a grand structure on which to engraft more power and size—that, indeed, a more suitable basis to work on could not be desired. It may be observed that the officers in charge of the Indian horse-breeding operations have peculiar difficulties to contend against. The native disinclination to castrate had to be overcome to prevent the excessive use of weedy sires; in a country whose fields are unfenced, and where horse-stealing is (in some regions) common, the natives could not give their young stock the degree of liberty necessary for their full development. The practice of closely hobbling, or even chaining and padlocking the fore-legs together, was universal, and its natural result was deformity of limb, narrowness of chest, and ruined action. In recent years, however, castration has been more favourably regarded, and the beneficial effects of allowing larger liberty to young stock has been increasingly recognised.

To gain greater size and power the Government sanctioned in 1876 the purchase of 300 stallions, and, with an eye to the lack of substance displayed by native mares, roadster blood was largely introduced. These 300 stallions were sanctioned merely as a beginning; the number was increased as the new scheme developed. In the year 1886 the Indian stud was composed of the following stallions:—90 English Thoroughbreds, 159 Hackneys and Norfolk Trotters, 146 Arabs, 10 stud-bred horses, 6 Australian Thoroughbreds, 2 Turkoman stallions and 1 Persian. In addition to these, pony stallions were provided in suitable districts, under the control of District Committees, to cover small and unbranded mares. Some 19,588 branded (*i.e.*, officially approved) mares were on the registers in 1886. In the year 1900 the number of stallions was returned at 384.

For some few years after the new system was inaugurated endeavours were made to buy full-grown horses for immediate use as Remounts, but with little success. A change was therefore made, and in 1881 the purchase annually of 150 horses aged $2\frac{1}{2}$ years and upwards was sanctioned. This plan gave satisfactory results, and it was extended, young horses

being purchased in larger numbers and distributed among the rearing depôts, Hapur, Kurnal and Ahmednuggur, to be kept and trained for ultimate issue as Remounts. From 1889 one thousand young horses have been purchased every year, but when the number was thus increased it was found necessary to take the animals at a much earlier age, and the minimum was, in the year mentioned, fixed at six months.

It must be added, in this connection, that the question of mounting the native cavalry had in 1889 reached an acute stage.*

Colonel Hallen's description of the stock got by the several imported breeds of stallion is exceedingly instructive. It will be borne in mind that his observations were made after the new system had been twelve years in operation, and there had been, therefore, time to see what impression had been made on the native stock.

The animal got by the English thoroughbred

"is, as a rule, handsome in top and outlines of back, hind quarters, and carriage of head and tail, but is often shallow in girth and back rib, light in barrel, and from 70 to 80 per cent. are leggy and deficient in bone of limb. Diseases of legs are more common among Thoroughbred stock—*e.g.*, curb, bone spavin, bog spavin and ring-bone are not infrequently shown. Few of this stock prove fit for British cavalry, and hardly one for horse or field artillery, but some are purchased for native cavalry. Many native breeders are distrustful of this class of sire, as they find their stock do not realise a good price in the market."

Of the stock got by Australian sires, which are English Thoroughbreds foaled and reared in the Colony—

"The young stock often prove better-boned in limb than the stock of imported Thoroughbreds from England, but in other points are similar to the stock of the English Thoroughbreds."

Turning to the Report of Colonel Queripel, the Inspector-General, ten years after the foregoing remarks were written, we find the complaint that English Thoroughbreds of the stamp required to get Remounts grow scarcer and harder to obtain each recurring year. "Breeders aim at long-legged, striding animals," which are exactly what India does not require; and,

* *Opinions on the Supply of Remounts to British and Native Cavalry, and on Horse-breeding in India; expressed at an Informal Meeting held at Simla on 30th August*, 1889.

though treated with the most jealous care, the English Thoroughbred is liable to develop unsoundness in so hot and dry a climate. Specific objection is made to their feet, which "appear to be getting smaller and weaker every year." In Beluchistan, which has the driest climate of any region in which the Department conducts its work, the dryness and rocky soil combine to ruin their feet, which, Colonel Queripel says, "break away until there is absolutely nothing left." On the other hand, a better stamp of Australian Thoroughbred had been obtainable in small numbers; seven imported during the official year 1897-8 were between 15.2 and 15.3½ in height, girthed from 68 to 72½ inches, and only one had less than eight inches of bone below the knee. How these stallions have succeeded at the stud time has not yet shown.

Reverting to Colonel Hallen's paper of 1888, he said of the Hackneys and trotters :—

"These have, with country-bred mares, produced stock of good bone and power, proving suitable and sufficiently well-bred for Army work in India. I may mention that, as a rule, most of the best-boned stock in the late Stud Department had half-bred blood in them. The Special Stud Commissioners bore this fact in mind, and advised the employing of more half-bred sires, these to be of pure breeds and showing quality.* Some of the half-bred sires that had been imported from England were, in the opinion of the Commissioners, of not sufficient quality, but they found their produce proving excellent for artillery purposes. I, of course, do not wish to imply that every stallion has proved a success; but I do most distinctly affirm that at least 90 per cent. of the half-bred sires have fully realised the expectations formed of them."

After referring to the prejudice with which these horses were first regarded by men accustomed only to the Thoroughbred and Arab, Colonel Hallen said :—

"The practical results of horse-breeding that have obtained and are obtaining in India, indicate that such horses (horses capable of doing good work by having blood, bone, and power to enable them to carry and draw the heavy weights of British cavalry and artillery) cannot be produced from the present country-bred mares by mating them with thoroughbred or Arab stock; that very few per cent. of Remounts so bred prove fit for those branches of the service; but we are having, day by day, more proof that the produce of these mares by half-bred English horses (or, as they are now called in England, Hackneys) of pure breed, is well adapted for general army work in India, thus indicating that the more this class of sire—the *well-bred half-bred*—is employed, a greater chance will be afforded of securing larger-framed country-bred brood stock, which in turn will yield still larger framed and boned produce. The mares of this improved and

* In writing of pure breeds, Colonel Hallen means those breeds which have Stud Books in England.

developed stock may in time become large enough in bulk to allow of their being mated to Arab sires, should it be deemed desirable to add more quality and compactness in bone with powers of endurance, which are the well-known characteristics of the true Arab."

Colonel Hallen added that when his employment in stud work began in the Bombay Presidency, 26 years previously, he believed it right to use Thoroughbred and Arab stallions on the country-bred mares.

"I have now to confess that on visiting, three years ago, one of the best breeding districts in the Bombay Presidency, and attending an annual horse show held there, I found the stock resulting from the use of these sires, though very handsome in top and pretty in carriage of head and tail, lamentably deficient in bone and sinew of limb. The Director of the Army Remount Department was present, with the hope of finding Remounts, but he did not succeed in seeing one fit for the British services; I believe that not one country-bred Remount for the British services has been secured in the Bombay Presidency. May I, therefore, ask you to remember that Thoroughbred and Arab stallions have brought about this result. . . We should, I believe, rely on the pure half-bred * of England as a sire to give more bone and substance to our stock."

Colonel Hallen ceased to direct the horse-breeding operations of India some ten years ago, and the opinions to which his long experience had brought him not having been shared by his successors the Thoroughbred policy has been resumed. The Report for 1897-8 says that some 60 horses got by English Thoroughbreds (or about one for each stallion!) were issued as Remounts to British cavalry.

A curious commentary on the relative merits of the produce got by the different breeds of stallion in use is furnished by the officials of the Department themselves. I am indebted to Colonel Biddulph for a copy of the "Figures of Merit" showing "The Percentage of Prizes Won by Each Class According to the Number of Stallions Employed." These figures cover the six official years, 1886-1892, and show the stock by "Half-Bred English" or Hackney sires easily first, the Australian stallions taking second place, and the English Thoroughbreds third. Figures relating to subsequent years, I am informed, show the Thoroughbreds imported from Australia in the first place.

Without anticipating the conclusions of the Commission, to which reference has been made on a previous page, it may be

* Known in England as the Hackney breed

54184

observed that the original scheme, in the opinion of some good authorities, never had a fair chance. Apart from the absence of continuity of method, which alone would most seriously retard progress in the desired direction, it was considered that the main purpose of the scheme was subverted at the outset.

The infinitely more important branch, the Horse-Breeding Department, with its larger aims, was subordinated to the Remount Department, whose purpose was the immediate provision of horses for the Army; and as a natural result, the objects of the latter become paramount. The Remount agents and committees made it their business to buy as cheaply as they could; it was their duty to do so; but this policy of cheapening a commodity it was particularly desired to improve was, on the face of it, a fatal mistake; it discouraged native breeders instead of encouraging them. At the meeting held at Simla on August 30, 1889, to which reference has been made on page 49, the Director of Land Records for the Punjaub said that the method of purchasing horses pursued by the Indian Government had a bad effect; that native owners of good large mares fit to produce Remounts had begun to sell these animals, and were purchasing pony mares to produce ponies and mules. We have seen on what very different lines the German Government goes to work.

Our national love of sport makes its effect felt in India as it does in England, and the effect is not a good one. There is in India always a ready market and a high price awaiting the animal suitable for racing or for polo; and thus the breeder's ambition is to produce such a horse or pony, and to ignore the animal suitable for military use. Opinions are divided concerning the effect the temptation to produce a racing or polo pony has upon horse-breeding as an industry in Northern India; but such authorities as Colonel Hallen and General Luck regard it as a factor which must be reckoned with.

In this connection, one great difficulty that makes for failure of the most wisely directed endeavour must be borne in mind. The three hundred stallions employed by the Indian

Government are scattered over thinly populated regions, and in charge of natives; and it seems to be generally admitted that the natives in charge of these stallions cannot be depended on to refuse service to unbranded mares if a trifling present be offered by the owners of such mares. Further, when there are two stallions at a local covering station it usually happens that the native owners of mares give their preference to one to the exclusion of the other; whereby the favourite does all the work, even being brought out several times in the same day. Hence the popular stallions are liable to be overworked, and serve many mares which are of a stamp not at all likely to throw good foals.

Owing to these difficulties and errors of policy the establishment of a native breed, the work of many years under the most favourable conditions, has never been seriously attempted, and the production of Remounts for immediate use has been made the objective of the Horse-Breeding Department. It was impossible that its work under these circumstances should have succeeded as it would have done had those in control been able to ignore the question of an *immediate* supply of Remounts. Horse-breeding, it may be suggested, is essentially an agricultural business, and therefore one to be undertaken by a civil department; the business of procuring Remounts for troops, on the other hand, is essentially a soldier's task. The error lay in the attempt to combine the two.

Of the Arab sire Colonel Hallen considered his small size is the only point in his disfavour. It had been Colonel Hallen's hope to gradually grade up with the Hackney and trotter cross large-boned and sizeable mares; and he looked to these to throw to Arab sires animals of the right stamp for the Remount Department.

It must not be forgotten that climate and the prevailing normal conditions of life are paramount in determining what the size and character of the horse of any given country shall be. In temperate climes, with good feed, horses of great size can be produced and depended on to maintain their size. In

very hot, dry countries, which offer comparatively poor feed, such as Arabia, Persia, and Northern India, as described by Colonel Hallen, we find the native races small, wiry, and active; and, again, in cold regions we find the smallest and most stunted horses.

Only within certain limits, to be ascertained by years of costly experiment, can we hope by cross-breeding to override the natural laws which determine the size of the horse of any country without materially impairing its valuable qualities. In India, the old Stud Department, for various reasons, failed to establish an improved breed of horses in the eighty years of its existence; it would be unreasonable to expect that the reorganised Horse-Breeding Department should have accomplished the task during the twenty and odd years it has been at work.

OPINIONS OF MAJOR-GENERAL SIR JOHN WATSON, K.C.B.

General Sir John Watson, who has been good enough to read the foregoing pages, favours me with his views on the subject of Horse-Breeding in India. As the outcome of long experience in that country, Sir John's remarks carry great weight.

He points out that the old Bengal studs, which were abolished in 1876, supplied both cavalry and artillery with a remarkably fine class of stud-bred Remount for many years. Deterioration and infertility followed upon the continued use of English sires of different classes.

The "Diffused System" was then introduced. As described in the preceding pages, the gist of this scheme was the distribution over the horse-breeding areas of Northern India of a large number of English Thoroughbred, Hackney and Arab Stallions, which give gratuitous service to approved mares. Sir John Watson is entirely at variance with the authorities who adopted this "Diffused System." The operations of the

Horse-Breeding Department as now constituted are, he points out, supervised by the Inspector General of the Civil Veterinary Department, assisted by about a dozen veterinary surgeons who have various other duties to perform, in taking measures for prevention of cattle disease, in directing veterinary education, including colleges for natives who are being trained in bacteriological research, &c., &c.

The multiplicity of their duties permits the officers of the Department to devote only a very limited degree of supervision to the work of the stallions; and, further, the veterinary surgeons employed have never studied breeding as a science. There is also the fact that after a few years' service in the Department they revert to their duties with the Army; whereby no continuous system of supervision is possible.

The gravest objection, however, in Sir John Watson's opinion, to the "Diffused System" is that it treats the thirteen different Indian breeds of horse as one, all mares being classed as "country-bred mares;" it provides no means nor machinery whereby the result of using any given stallion on any given mare can be ascertained. There does not now exist in India even an experimental stud in which the results of different crosses can be observed. The Returns, in a word, take account only of the stallions, and pay no attention whatever to the mares. No attempt has been made to preserve these breeds in their purity; mares of each and all are covered indiscriminately by English sires of different classes and by Arabs of greater or less purity of blood. Sir John observes that under these circumstances it is not wonderful that wide divergence of opinion concerning the relative merits of Thoroughbred, Hackney and Arab should exist. "If nothing is known of the breeding or quality of a Remount dam, how is it possible to ascribe good or evil to the sire alone?" This being the case, he dismisses the "Figures of Merit" quoted on page 51 as valueless.

Sir John Watson says he is not aware that the main purpose of the scheme was subverted at the outset, as stated, upon the authority of another expert, on page 52; or that the

Horse-Breeding Department was subordinate to the Army Remount Department: this, he says, has certainly not been the case for many years. Neither does he understand that any attempt has been made to combine the two, as stated on page 53. "The Army Remount Department purchase what they find in the market; the Civil Veterinary Department endeavours to supply that market; but it has a free hand to do it in its own way."

In Sir John's opinion our endeavour to create an Anglo-Indian type of horse capable of reproducing itself can never succeed; the endeavour has been persevered in for a century, has failed, and will fail; "for we are fighting against nature, and nature will beat us in the long run." This is simply a more pointed way of saying what has been asserted as a general principle by the writer on page 53—*i.e.*, that "climate and the prevailing normal conditions of life are paramount in determining what the size and character of the horse of any given country shall be." Sir John Watson, if I understand him rightly, is opposed to the importation of English stock altogether, as he asserts that "English and Asiatic blood will never mingle with advantage."

Holding these views, he is firm in the belief that the present system of Indian horse-breeding is radically wrong and doomed to failure.

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